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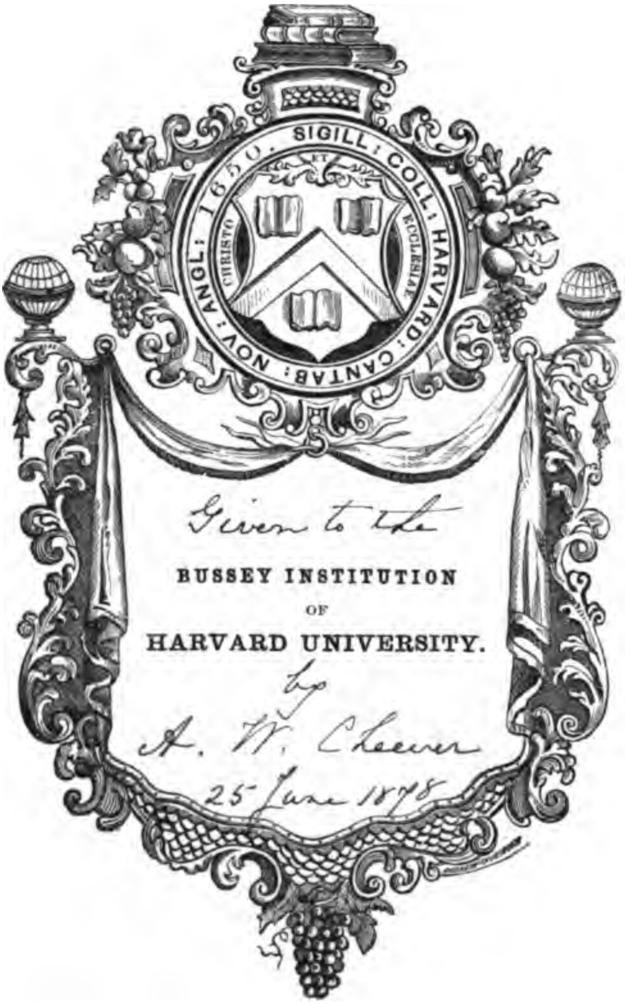

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THE

NEW ENGLAND FARMER;

DEVOTED TO

AGRICULTURE, HORTICULTURE,

AND THEIR KINDRED

ARTS AND SCIENCES.

ILLUSTRATED WITH ENGRAVINGS OF COUNTRY RESIDENCES, FARM BUILDINGS, ANIMALS, FRUITS, IMPLEMENTS, &c.

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THE
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MONTHLY.

SIMON BROWN, } EDITORS.
S. FLETCHER, }

JANUARY 1, 1869.

MONTH succeeds month, and year succeeds year. The hand on the great dial now points to a new date, and we must adjust our accounts and our correspondence to it. The year 1868, with its labors and cares and sorrows, and its joys and pleasures, is now numbered with the years of the past, and we are assuming the responsibilities and the labors of a new year.

May it be to all our readers a year of pleasure and successful labor. That it may prove such it will be well for us all to review the experience of the past year, and inquire wherein we have been successful, and in what we have failed; and to inquire what are the causes of success, and what of failure.

New dates are so many stations on the journey of life, from which we may profitably look back over the space we have passed, and forward along the vista which is opening before us.

The disappointments and failures of the past, instead of discouraging us, should teach us lessons of wisdom in arranging our plans for the future. From our successes we should derive new faith and energy. The "Gods help those who help themselves," said the old master of Fable; and all experience proves he was right. By the very efforts we make we acquire new inspiration and an increase of power. Says the poet,

"Hope springs ever new in human hearts."

Then let our hopes be high, and may they inspire corresponding determination and effort, and may our efforts and determination not be confined to the field of agriculture, but embrace intellectual, social and moral culture as well. We will aim not only to secure good crops, but an increase of knowledge, of social refinement and of holy living.

A review of the results of the season now closed should call out devout thankfulness for the blessings with which the labors of the husbandman have been crowned. Local failures and disappointments have of course occurred, but on the whole the country has been favored with abounding harvests, and almost universal health. The great staple crops were probably never better; manufactures and commerce have given good results to all wise enterprise; the laborer has been fully employed at high wages, and enabled to surround himself with comforts, and obtain for himself and his children the means of education and social improvement; science has made new developments, and received new applications in the arts; peace has prevailed in our borders, and our country has increased in influence and in the respect of the nations of the earth.

Not only may we rejoice in the past, but we have everything to animate and encourage our hopes for the future. The completion of the Pacific Railroad; the establishment of regular lines of steam communication with China and the East; the laying of telegraphic lines to connect this country with the continent of Europe; the large immigration from Europe, and the great increase of the use of farm machinery must greatly extend our commerce and increase the amount of our productions. A new world for cultivation and stock raising is fast opening up in the western half of our wide empire, and the means of communication with it are opening up as fast, which will secure to it facilities for reaching a market, and to the eastern manufacturers an outlet for their productions. All these and many other circumstances that we need not particularize, are full of promise, and prophetic of glorious results in the future.

We will, then, commence the labors of the year with renewed feelings of gratitude to the Giver of all good, with an increase of charity in our hearts towards all men, and work for humanity,—work with all diligence, and work on with patience,—and may it be to us all "A Happy New Year."

PEAS INSTEAD OF CORN.

We have been frequently told that the Canada farmers use peas instead of corn to fatten their hogs, and that they make very firm and sweet pork.

A writer in the *Rural New Yorker* says he planted last year two and a half acres in peas; seed nine bushels. Land fair but very weedy. Sold green peas to the amount of $13. Fed to two hogs and five pigs seventy-eight dollars worth, and has on hand forty bushels, worth eighty dollars, making the whole crop worth $171; deducting the seed, $18, leaves value of crop, $153. He began to feed in July and fed in August, September, October and November, whereas his corn would not have been ripe enough to feed till October and November. It is easier to fatten pork in warm weather. He thinks a bushel of peas in September worth two of corn in November. The peas can be grown on soil too poor or too foul to give a good return in corn, are more easily raised and harvested, make solid, sweet pork, and the straw greatly improves the quality of the manure,—mixed with other grain it is the best food for horses he ever used. He soaks the peas twenty-four hours in water, when the hogs eat them greedily and fatten rapidly. We have no doubt that a good crop of peas may be raised with less manure than wheat or corn. They should be put in early with us, as late peas are apt to blight. Peas were formerly raised to a considerable extent by New England farmers, and ground up with oats, &c., for pig "provender."

SEASONING RAILS AND BOARDS.

After some remarks on the advantages of cutting rails and boards designed for fencing of a uniform length, the *Country Gentleman* makes the following suggestions in relation to seasoning them:—

There is another point of importance in providing fence stuff. This is to have the boards sawed or the rails split immediately after the trees are felled, or as soon thereafter as possible, and set up at once to dry. The reason that summer cut lumber lasts so much longer than winter cut stuff, is the rapidity with which the seasoning process is effected in the dry summer air. If logs are cut and then allowed to lie several months, they will inevitably become more or less "sap-rotten," and the stuff from them prove inferior both in strength and durability to that which is quickly seasoned while yet fresh and sound.. Probably logs cut in early summer, and remaining untouched, would become thus injured more rapidly during hot weather than in a colder temperature; but when split or sawed as small as ultimately desired, the same heat that would promote fermentation in the large log, would dry and season the small split or sawed portion into a horny durability. The best time to cut and split rails is at midsummer, as we have learned by repeated experiment; the softer woods, as basswood for instance, lasting more than twice as long before decay sets in, as when cut in winter or spring. We have, therefore, preferred paying a higher price for the work in summer than at other seasons. But if rails must be cut in winter, let them be split at once, and placed where they can dry as rapidly as possible. In woods, where there is no wind, the drying process will be slow; but if drawn out near some point where they will be wanted, and set up where strong winds will sweep through the pile, the seasoning will advance with much greater rapidity. When the warm weather of spring arrives, they will have the additional advantage of sunshine, instead of the shade of woods. The same care should be taken with boards. Make an early agreement with the sawmill man to saw them soon after drawing; and as soon as sawed, stick them up in the wind where they will season as rapidly as possible.

—The Agricultural College of Michigan graduated a class of ten young men this fall.

LETTER FROM THE FARM.

CONCORD, Nov. 27, 1868.

The Season and Crops generally—New Milch Cows—Other Stock -Farm Improvements—Apples, Cider and Vinegar.

GENTLEMEN:—There are few things relating to the operations on the farm that strike me more singularly than the *peculiarity of the seasons* with regard to the crops. For instance, on land where I raised a crop of parsnips ten years ago, that was fairly estimated at 800 bushels per acre, the crop this year would not be 400 bushels. In the intervening years the land has always been highly manured, every crop carefully tended, and not cultivated with parsnips. The roots ten years ago were white, very free from fibrous roots, and so long that the man who dug them, said "he could dig post holes just about as fast!" They were brittle and very sweet. This year they were deficient in quantity, short, "scraggy," tough, and lacked that delicious flavor which a good parsnip possesses. The same remarks are equally applicable to the beet crop.

Cabbage and cauliflower were club-footed on the same soil, and under the same treatment, where abundant crops had been produced before. A patch containing 100 cauliflower plants grew finely until they began to head, and then seemed to remain stationary. Upon examination, every one of them was found to be club-footed, and the whole were plucked up and fed to cows. The club was not a solid mass, but made up of numerous white bunches from the size of peas to that of half a hen's egg. The carrot crop was little better than that of parsnips or beets.

On the other hand, pole beans have run as though they expected to win the race at an agricultural fair, and seemed very loth to stop when frost and snow had whitened them. In some former years, no power of manure, bright suns and timely rains, would induce them to run up the poles. Even if carefully wound around the poles in the manner in which they are disposed to go, and tenderly tied up with strings, they would utterly refuse to go-ahead, and untwist themselves and hang down their heads like a lout of a boy who has been detected in throwing paper pellets into the faces of the girls across the school-room desks! They would not run, and did not produce, so that the dinner-pot was rarely brought into use to prepare that delicious dish,—green shelled beans, delightfully seasoned with a slice of sweet, salted pork!

The careful observer will notice these peculiarities in the crops of the farm—but particularly in the garden crops—every season. They are puzzling to me. I have watched them for many years with all my powers of examination and observation, and yet feel myself unable to account for them. Who will tell us what peculiar conditions of the earth or atmosphere cause these singular phenomena? When will the wise men of the *State Board of Agriculture*, or the learned ones of the *Agricultural College*, unravel these mysteries; so that our tables shall abound in cauliflower and cabbage, beets, beans and parsnips, with some degree of certainty, each succeeding year?

The crops, generally, the past season, were good. Owing to cold and wet weather at the usual planting time, they were got into the ground late. A large proportion of the Indian corn was not planted until the first week in June, and much of it not until the second. The weather continued quite unfavorable for some weeks after that period, so that the prospects of a corn crop were not at all flattering. Then came the unparalleled hot season of middle July, which not only revived the corn, but brought new hopes to the mind of the planter. Indeed, without this hot season, there would probably have been but few fields of sound corn in all this region. It brought it forward with a rapidity such as was never observed before, and heated the soil so much as to keep the crop going forward when the atmospheric conditions were unfavorable. The result has been a fair average, at least, of all the leading crops. In two or three neighboring States, where I have made brief visits during the autumn, I find the same results. There, as well as here, the statement is common that, up to the 4th of July, the prospect of an average corn crop was altogether discouraging.

From the abundance of the crops some singular changes have taken place in regard to the prices of stock. New milch cows are in unusual demand, and bring prices varying from $40 to $125. Scarcely any cow that would come under the term of good, sells for less than $50, while most of them bring nearer $100

While these high prices prevail for new milch cows, other stock,—wherever I have been, both at auctions and on the farm,—is selling at prices much lower than it commanded three months ago.

In the midst of our great national progress in art and science, I have been gratified in all my visits to notice what seems to me an unusual attention to *improvements on the farm*. Do the inventions that relieve and facilitate labor, and that add new graces to social life, as well as encourage and promote the industry of our people, stimulate the farmer to better practices,—or are these new efforts called forth by a greater demand and higher prices for his products? It would not be irrational, I think, to suppose that they act upon each other; that the embellishments in rural life, and a higher cultivation of the soil will stimulate the inventive genius of our people, while the labors of the inventor and mechanic will greatly avert the toil of the farm, and leave time and inclination to the farmer to improve the appearance of his home, as well as to increase the productive power of his soil. Indeed, all useful labor, of whatever nature it may be, makes a part of the great whole, and becomes in one way or another important to all.

The apple crop in the New England States this season was larger than it has been for several years past, but the fruit was very imperfect; so much so, that fully one-third of it all was turned over for making cider. Good cider vinegar has been selling for fifty cents per gallon among the farmers in the country. A considerable portion of the cider made will probably be turned to vinegar, and that article become cheaper. Yours truly,

SIMON BROWN.

R. P. EATON & CO.

SALT FOR GRUBS.—At a late meeting of the Herkimer county, N. Y., Farmers' Club, Mr. Skinner said that last spring he ploughed up an old sod where there was an immense quantity of grubs. He sowed upon three and three-fourths acres, soon after ploughing, two barrels coarse salt. A day or two after the application there was rain, which dissolved most of the salt. The ground was then thoroughly harrowed and planted to corn. About half a pint of leached ashes was placed upon each hill of corn. The yield of corn was very large, and not a hill was injured by worms. He had no doubt, had there been no application of salt, that the grubs would have destroyed the corn.

HARDENING THE MOULD BOARDS OF PLOUGHS.— A new method of hardening ploughs has been discovered lately, which gives them the hardness and temper of steel, in combination with the toughness of iron. The iron mould-board is heated and dipped into molten iron. It remains there ten seconds, when the two surfaces become heated to a white heat, while the centre is not heated through. It is then dipped into water; the surface comes out harder than the highest tempered steel, while the interior retains all the strength and toughness of iron. These mould boards take the finest and hardest polish, and will, at the same time, be tough enough to endure any reasonable knocking about in a stony soil.

For the New England Farmer.

THE GARDEN IN JANUARY.

Again the revolving sun,—or rather the earth moving in its annual circuit,—brings us to the commencement of a new year; and the wise man reviews his past course, and resolves on a future one. How is it with the farmer and his garden? Has he, during the last year, improved on his former practice, and come to the conclusion that a good garden, in connection with the farm and house economy, is one of his most profitable investments wherein he can expend his labor, in season? Let the reader look out on his garden, and, as he reviews the last season's products from that little spot of ground, tell me if he has not been better rewarded for his time, labor, and expense there, than he has been on any other cultivated portion of his farm of equal area. What would it have cost you to purchase the same amount of inferior products? If you have kept an account with the garden you can at once tell how many dollars and cents it has cost and how many it has brought in. But is the pecuniary value of what the garden produces, or what those products would sell for, all you take into account? Is there not much saving and an amount of satisfaction that money cannot purchase, in having such products of your own raising?

But if you have not a good garden, select that nice piece of ground lying convenient to the house, and if it is a sward, cart on and spread a heavy coat of good manure,—you need not be afraid of giving it too much, if it can be well turned under, any time when the ground is not frozen, or if a thaw comes in the course of a few weeks, plow it with narrow furrow slices, ten or more inches deep, if the the soil is so deep, if not, to the depth of the soil; as but little of the under soil should be turned up at a time. If you have a garden already, it will be an advantage to give it a good coat of manure, broadcast, any time during the month. The rains will wash the soluble parts of the manure down, and the soil will absorb them, and a greater benefit will accrue by the fertilizing qualities of the manure being well diffused through the soil. Then plan in your mind just how much and what part shall be devoted to each particular product; where and how large shall be the hot-bed, the beds for beets, radishes, parsnips, lettuce, salsify, chicory, spinach, &c.; where shall be planted the pole and dwarf beans, potatoes, early corn, cucumbers, squash, tomatoes, &c., and the particular portion that each and every other variety of product, grown in the garden shall occupy. Then see if you have all the requisite seeds in prime order; if not procure them at the first opportunity, while the seed merchant and grower has a full stock on hand. All seeds which are in the least of doubtful vitality, should be tested in a box of soil in a warm room,—noting the number of seeds planted, and compare them with the number of plants that come up. *Good seed* is the cheapest, even if it costs three prices.

A garden which has at any time stagnant or a surplus of water in the upper or under soil within two or three feet of the surface, or which has a close compact surface soil, or a hard, retentive subsoil, or if the soil is shallow, or cold, cloggy or moist, delaying early spring planting, surely needs underdraining, and it will pay to have it done. Autumn is the best time for draining, but often there are times when it can be done during winter, and the cost is but a trifle, except for tiles. Tiles make the best under-drains, and in the long run, if not at first, are the most economical. The benefits derived from underdraining are many; among which I may mention, deepening, warming, enriching, drying and sweetening the soil; thus in fact lengthening the season in which it may be worked and plants grow in it.

This is the season when the farmer is most at leisure, and he should endeavor to cultivate and enjoy his advantages, remembering that time spent in the "Farmers' Club" meetings, in social visits, reading and conversation, or even in merry pastime, is not time misspent; but that the culture and relaxation of mind and muscle tends to invigorate the system and the mind, and that the daily toil of a more busy season is easier accomplished therefor.

With all your plans, plan for the ornamental as well as the useful. Look around the house and premises, and see wherein you can improve its appearance, by planting trees, shrubs, flowers, &c. See if any heretofore planted need pruning, and in a mild time, when they are unfrozen, prune them.

Look out for the eggs of the "tent caterpillar" They are found in a little bunch encircling small branches, and may be detected when the sun shines, by a shining appearance; cut off the twig, with the eggs, and burn them, thus saving future trouble.

Accumulate manure; save all the wash from the house, slops, &c., and add it to the compost heap; let nothing that may be turned into plant food be wasted, but save it, though small, as you would nickel pennies, by the saving of which the dollars are accumulated.

Cold frames, in very cold weather, will need extra protection, but in warm days the covering should be removed and some ventilation given; light and air are essential. Protection to grape vines, strawberries and half hardy plants may be given now, if not already done, as injury by cold weather seldom occurs till a thaw comes; sudden changes from cold to warm and warm to cold, by alternately starting the sap flow and suddenly freezing, burst the sap vessels, and thus destroy the plant.

Vegetables in the cellar will continue to arrive at perfection, and need care, to keep from freezing, and to prevent rotting. Remove all decaying vegetables, or other waste vegetable matter from the cellar.

W. H. WHITE.

South Windsor, Conn., Jan., 1869.

For the New England Farmer.

MARL LIME.

Your correspondent W. I. Simonds, inquires about marl lime. There are several deposits of shells (called marl lime) in this section. Some of them are several feet deep, and usually covered more or less with muck. These beds have the appearance of being the bottom of a pond in times long past.

One of these deposits is situated in Williamstown, the owner of which burned quite a quantity about a year ago, and others with myself have used it the past season on crops. My neighbor, who used both the burned and unburned, pronounces the burned much the best; besides, it is the most convenient to use.

A gentleman from Calais informed me that he procured several barrels, and that it pays well, although he did not use up his supply in consequence of ill health. He says it is astonishing to see the effect when applied to hoed crops. I used only five barrels, in all cases with perceptible benefit. The most marked results were noticed when applied to the potato crop, at the rate of less than three barrels to the acre. On land well manured, it gave me, in an average of eight experiments, an increase of twenty-five pounds to the square rod, or over sixty bushels to the acre; and on greensward, without manure the increase of crop was much greater.

This marl when burned resembles fine ashes, but is somewhat heavier. The cost is trifling compared with other fertilizers. Potatoes raised upon this appear much better and are less liable to be affected with rot than where superphosphate is used. They are also free from the rough or rusty surface. But the phosphate manufactured at St. Johnsbury, Vt., will grow the largest crops.

Perhaps this may be the same deposit alluded to by Mr. Simonds. If so, he need not be afraid to try it. A. D. ARMS.

Montpelier, Vt., Nov. 25, 1868.

For the New England Farmer.

CULTIVATION OF CRANBERRIES.

Will Mr. Hersey tell us why "in preparing the soil for cranberries the surface should be removed down to the peat?" D. L. SHEPARD.

Foxboro', Mass., Nov. 23, 1868.

REMARKS.—The above inquiry, together with that of "W. B. K.," of West Fairlee, Vt., in relation to a variety of the cranberry for Central Vermont, were forwarded to Mr. Hersey, who has kindly responded, as follows:—

In reply to Mr. Shepard's inquiry as to why "in preparing the soil for cranberries the surface should be removed down to the peat," I would say, If the land is to be covered with not more than from three to six inches of sand, unless the soil is removed, the grass will find its way to the surface in such quantities as to make it very difficult to keep it down without disturbing the horizontal runners of the new plants. It should also be removed, because when properly dried and pulverized it is one of the best materials to absorb the liquids and gases of the barn, which are too often permitted to pollute the streams, and render the surrounding atmosphere anything but agreeable.

In reply to the question of "W. B. K.," Is there any kind of cranberry that will prove profitable as far north as the middle of Vermont, if set on the right kind of land?" I am not able to speak from experience, and believing that the value of a communication on agriculture depends mainly whether it contains facts ascertained to be such by the actual experience of the writer, or whether it contains supposed facts suggested to the writer by a friend, I hesitate to give an opinion.

The cranberry in this latitude blossoms about the first of July, and the crop is gathered the last of September. In a higher latitude it would be important to have the vines covered with a few inches of water until all danger of frost in the spring is over. The land should then be kept as dry as possible until there is danger of frost in the autumn, then flow it every cool night until crop is secured.

If W. B. K. has the right kind of land he should try a few rods and report to the FARMER the result. E. HERSEY.

Hingham, Mass., Nov. 27, 1868.

For the New England Farmer.

MENTAL CULTURE--MANURE.--OVER-WORKING.

There is nothing more important to the farmer, or indeed to any other business man, than first to know the effect of causes, and then the causes of effects. The mere fact that certain things produce certain effects, is not enough. Many know that corn when planted on old manure produces better than when planted on green manure. The effect is understood while the cause is often unknown.

It is sometimes said that one must be a thinking man to be a good mechanic, but that any fool can be a farmer. But mechanics, merchants and professional men who try farming find that such is not the case. To be a successful farmer it is of the utmost importance that we study our business well. Intelligence, industry and economy are essential to the prosperous farmer.

When I see a farm with good substantial fences, and no loose gates torn from their hinges, or old blinds hanging from the window frame by one hinge, I should not fear to drive into his door-yard in the night. I should not expect to confrot a huge dog, or smash against an old cart. His chains, his ploughs, his harrows, his cultivators, hoes, and all other tools, will be found in their proper places, and well cleaned, when not in use. Order is economy. It costs less to take care of tools than to hunt for them. But there may be a mistaken economy. To spend three hours in raking scattering spears of hay, that when weighed would not amount to ten pounds; or to use up one's strength and perhaps an axe on some old hard knots, for an armful of wood, may cost more than it comes to.

I saw a man, yesterday, who said he must use a little more economy; his family was very expensive; farming didn't pay, and he was going to stop his paper. I thought it might prove like splitting tough knots, or raking three hours for ten pounds of hay.

I believe it is a slow way to learn without some means of learning, and that a good farmer's paper is a great help, indeed almost indispensable, especially to young farmers. If we get all our knowledge by our individual experience, we may find it a good but dear school. A whole year may be required for a single experiment. We should profit by the experience of others. But at the same time,

> "He that by the plough would thrive
> Himself must either hold or drive."

Manure is the life of farming. The question should be, how shall we make the most of it, and how apply it? I have before mentioned the fact that many men use old manure, but can't tell why. All vegetation is made up of decomposed matter. Manure applied before decomposition takes place, or before it commences, is of little use or none at all, until it does take place. It is a fact that manure left exposed one year before use produces a more rapid growth of vegetation than green manure, but it is also a fact that one-half of it or nearly so is lost. The more rapid the decomposition the more rapid the growth of vegetation.

If the ground did not undergo a change while the seed was in it, plants would not grow at all. When we apply manure it is to help the ground in her effort to feed the plant. A large amount of manure is thrown out of the barn to lay exposed to the rains a year before it is used, and when wanted the very best of it is gone. Nearly all farmers know the great waste of throwing manure out of their barns, but think they can't help it. They have not the means to cover it with a shed or cellar. If such men wait until they get the means from their farms they will not be likely to get it at all. Put up a shed at any rate. You can sell hay enough in two years to pay for it, by the extra amount of manure saved, if you cut twelve or fifteen tons of hay now. In this as in many other things the head may be made to save the heels, or in other words contrivance is as good as hard work.

As a general thing New England farmers work too hard. Many of us work sixteen hours in a day in the summer, with no time to rest. This is too much. It is more than horses or oxen can endure. But some say it is necessary to live. I think not. A man can do about so much work and no more. Work sixteen hours in a day and a man is all exhausted. He goes to bed tired and gets up tired. If his wife asks him to go any where with her, he answers with a snarl, "I've something else to do." Over-work makes him fretful. The harder he works the more fretful he grows. But, says one, how shall I avoid it? Work less hours. Sit down in the shade or fireside after supper, with your wife and children, and you will soon see that old smile return to the face of your now care-worn and toiling wife. A little rest wont hurt her. It will do you both good. You wont be poorer at the end of the year, but I will warrant you will be more happy. M. CAMPBELL.

North Turner, Me., 1868.

CURIOUS FREAK OF NATURE.—To mark my sheep, I paint a large black K on the rump of the bucks and wethers, and on the right side of the ewes; and one ewe, no doubt thinking she would save me the trouble of marking her lamb, marked it herself, and it had a good black K on its rump when it came. —T. L. K., *Wisconsin, in Co. Gentleman.*

POINTS OF A GOOD COW.

She's long in her face, she's fine in her horn,
She'll quickly get fat without cake or corn,
She's clean in her jaw, and full in her chine,
She's heavy in flank and wide in her loin.

She's broad in her rib, and long in her rump,
A straight and flat back, with never a hump;
She's wide in her hips, and calm in her eyes,
She's fine in her shoulders and thin in her thighs.

She's light in her neck, and small in her tail,
She's wide in her breast, and good at the pail,
She's fine in her bone, and silky of skin,
She's a grazier's without, and a butcher's within.

London Farmers' Magazine.

SUGAR MAPLES FROM THE SEED.—In reply to a subscriber, we would say that the best time to plant the seed of the sugar maple is immediately after it has ripened in the fall. It will do well, however, sown in the spring, if it is kept in a dry, cool place. A seed bed should be prepared somewhere in an open field where there is plenty of light and heat. The soil should be deep, rich and mellow, well drained and free from weeds. Muck or leaf mold from the forest will form the best manure; but if these cannot be conveniently obtained, well-rotted compost or old well-seasoned farm-yard manure may be used. It is well also to add bone dust and wood ashes in small quantities. A trench should be made about half an inch deep and a foot wide, care being taken to pulverize the bottom well several inches deep. The seeds should not be placed too thick—not nearer than two or three inches apart, and then the dirt carefully raked over them. If more than one drill is needed, they should be at least four feet apart, so as to allow a cultivator to pass between them. Care should be taken from the time the seeds come up to keep the ground free from weeds; it should also be stirred frequently so it will not bake; but pains should be taken not to disturb the roots more than is absolutely necessary.—*Prairie Farmer.*

FALL MANURING.—Another valuable use of manure at this season, is its application to grass, to be turned under in spring for corn. If spread now, carefully and evenly, the liquid or soluble portions are carried down along the fibres of the grass, and intimately diffused through the upper soil. If the application is made early, the effect is greater, as the diffusion into the soil is not only more perfect, but the growth of grass (or if clover, still better) will add to the fertility. But even now, or during the first half of winter, manure is worth far more than if left for spring application, when there is not time enough for it to become diffused, and when likewise the ground is packed and hardened by drawing heavy loads over it. We have sometimes observed a difference of twenty bushels of corn per acre in favor of the fall spreading of manure, as compared to spring application, when applied to sod in both instances. It is only when spring manure is very finely broken by repeated harrowings, that it proves of much immediate value.—*Country Gentleman.*

AGRICULTURAL ITEMS.

—If a poor man in England kills a rabbit without a license, he is liable to be sent to jail and to be fined $100.

—All wrinkled peas, says an exchange, are more delicate than those that are full and perfect in form; like sugar corn, the saccharine matter contained in them, causes them to shrivel when dried.

—At a late sale of sheep, at Worcester, England, fifteen Shropshire Down rams brought from £6 6s to £23 2s. Twenty Leicester rams averaged £6 16s. 6d. Ten Oxford Down rams from 14½ to 7 guineas.

—A correspondent of the NEW ENGLAND FARMER writes that Mr. Hoit Day, of Chesterfield, N. H., caught year before last twenty-one foxes; last year twenty; this year, up to October 29, ten, in steel traps.

—A mail carrier in Western Michigan uses a yoke of Texan oxen for carrying the mail. They are yoked to a cart and trot as well as horses; making fifty miles a day for two days in each week, that being the number of times the mail is transported.

—It is well known by butter makers that the cream which first rises on milk makes nicer butter than that which rises after standing a long time. It is said that the milk that makes the butter that Queen Victoria eats is skimmed twice, and twelve hours afterwards it is churned.

—A farmer on digging a well on one of the Western prairies, found the remains of an ancient well, thirty feet below the surface, which had manifestly been dug and walled in centuries ago. It is believed to have been sunk by the race of people who were the architects of the remarkable mounds and parallels which abound in most of the Western States.

—The students of the Massachusetts Agricultural College having finished harvesting, and staked out operations on a swamp, have commenced the lecturing season. Dr. Calvin Cutter, of Warren, as we learn by the *Amherst Record*, delivered his first lecture on Physiology, Nov. 11, and Charles L. Flint, Esq., is expected to commence a course on Dairy Farming, this week.

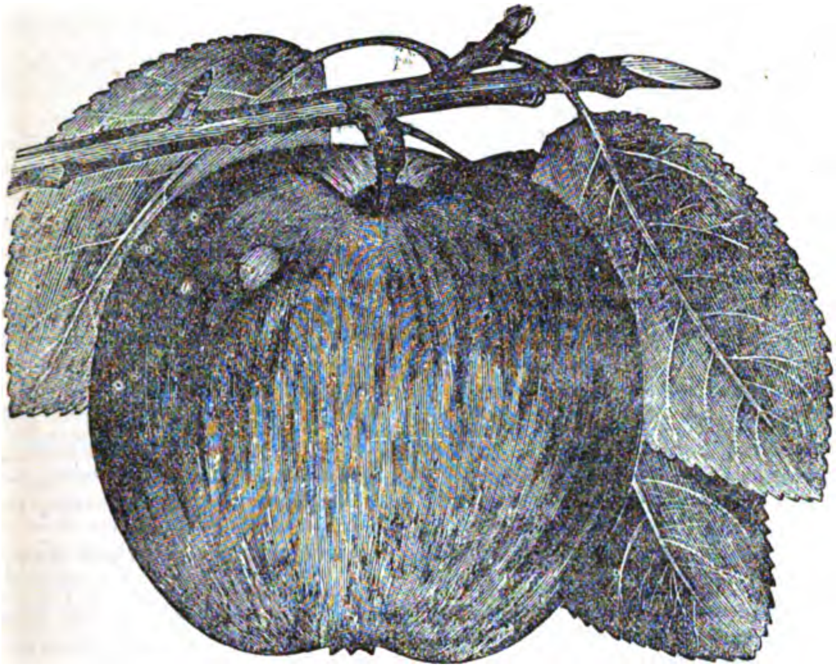
—A correspondent of the *Mirror and Farmer* says that the owners of three adjoining farms kept turkeys the past season. The first had over a hundred. They were heard to be in trouble, and on going to the rescue a fox was seen at work and driven away, but not till he had killed fifty-three of the young turkeys. He then went directly to the flock of the next neighbor and killed nine before he was discovered and driven away, and before night he found the flock of the third neighbor and killed eighteen, one of them an old turkey. Making eighty in all killed in one day by a single fox that escaped unharmed.

—A Kentucky correspondent of the *Country Gentleman* says, two years ago sorghum was greatly over-planted. This fact gave that interest a temporary shock; but it is reviving and rooting itself firmly in the affections of the people, and I believe now, as I did years ago, that it supplies the one need Kentucky had, to be the most abundant and blessed home a farming people ever claimed. You may set it down as a staple now, and the average price of syrup one dollar per gallon.

—A little boy, about eight years old, son of Mr. Eli Bates, exhibited at the late Fair at Milford, Mass., a pair of black calves, twins, probably, not over five months old, which were perfectly broken to draw a little blue cart which was made for them. The deserving little fellow, while exhibiting his team, in all the pride of childhood, was made the recipient of "scrip" to the amount of several dollars, by gentlemen who witnessed his exhibition. They nearly filled his hat with currency, whereat he was so overcome with joy, pride, gladness, and all the emotions of his young heart, that he cried, laughed, tried to talk, broke down, and finally turned away, his mind stored with rich memory of the kind persons who had done him so much good.

—A correspondent of the *Mirror and Farmer* says, sometime last September I went out to salt my sheep and noticed that one of them appeared quite dumpish, as though she was sick. I noticed also quite a number of green flies around and upon her back. Upon examination I found the wool upon her back packed full of fly blows. I also noticed the same kind of flies around another sheep, but she appeared as well as the rest. In about six days I went to the pasture again and these two sheep were missing. I found the carcass of one of them literally alive with maggots. They were both young sheep and in good condition. Can any one tell what ailed them and give a remedy?

—The farmers in the vicinity of Lexington, Ky., are bragging on large ears of corn. Among the specimens sent to the office of the *Home Journal*, an excellent agricultural paper printed in Lexington, are one ear of White Dent, 11 inches long, 7 inches in circumference, 12 rows of 60 grains each; in all 720 grains; another 9 inches long, 8 inches in circumference, 14 rows of 46 grains; in all 644 grains. A Dent corn, not named, 10½ inches long, 7½ inches circumference, 18 rows of 60 grains; making 1080 grains in all. Yellow corn, 10 inches long, 8 inches in circumference; it had 18 rows of 52 grains; in all 936 grains. Orange Yellow, one ear, 9½ inches long, 8 inches circumference, and 18 rows of 49 grains—882 grains; another 10½ inches long, 8 inches circumference; had 20 rows of 46 grains—920 grains.



HUBBARDSTON NONSUCH—OLD ENGLISH NONSUCH—TOLMAN SWEETING.

As I believe you are always willing to give information upon all subjects through the columns of the FARMER, I send you three varieties of apples. Please name them, and oblige

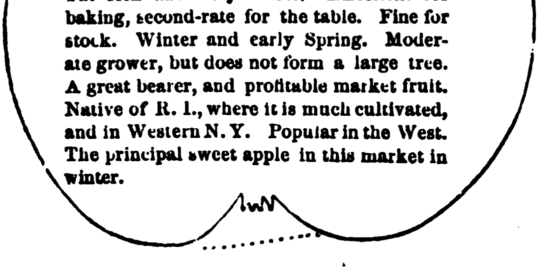
B. L. STETSON.

South Hanover, Mass., Nov. 12, 1868.

REMARKS.—The specimens above alluded to were received in good order. They were carefully and neatly packed.

The largest fruit is the Hubbardston Nonsuch, a very popular and high-priced apple,—specimens like those received are now retailing on the street at four to six cents each. The above cut, although not a very good picture, represents the Hubbardston. Mr. Cole describes it as "large to very large; roundish; yellow, mostly covered with red, which is bright in the sun; lower part of the cavity and basin, greenish russet, numerous dark specks; stem two-thirds of an inch long, in a broad, deep cavity; calyx rather large, open, in a broad basin; flesh yellowish-white, tender, crisp, of a very mild, excellent aromatic flavor, rather saccharine. Oct. and Nov. A good grower and good bearer, mostly in even years. Origin, Hubbardston, Mass.

The light colored apple is the Tolman Sweeting, — sometimes written Talman, or



TALMAN.—Large medial; flattish-round; whitish yellow, with a faint blush; stem long, slender, in a wide, shallow cavity; flesh white, rather firm, tough, and dry, but rich and very sweet. Excellent for baking, second-rate for the table. Fine for stock. Winter and early Spring. Moderate grower, but does not form a large tree. A great bearer, and profitable market fruit. Native of R. I., where it is much cultivated, and in Western N. Y. Popular in the West. The principal sweet apple in this market in winter.

Tallman. We copy its outlines and description from Cole's Fruit Book.

The red apple is the Old Nonsuch, sometimes known as English Nonsuch, Winter Nonsuch, Richfield Nonsuch, and in New York, Red Canada. Mr. Cole gives the following description,—"Medial; nearly all red; stem slender, in a very deep cavity; small basin; very tender, juicy, inclining to saccharine. Winter. Moderate grower, good bearer. In New York, and some sections in the West, it is large, fair, and excellent; but little cultivated here, as it is not profitable." Mr. Hyde said that it is not as common now as in his boyhood, when it was highly prized.

In relation to the light and the red apple we found several good judges in doubt as to their names. And we are indebted to J. F. C. Hyde, Esq., President of the Massachusetts Horticultural Society, who at once and without reference to the books, identified them. His powers of perception and of memory, in this respect, are truly wonderful. On one occasion when naming some pears which were similar in appearance, he was asked, "How do you distinguish them?" "Why, by their looks, as I do my neighbors or my children."

SUPERPHOSPHATE.

There appears to have been a lively discussion at one of the late meetings of the New York Farmers' Club on the subject of special fertilizers. According to the report of the *Tribune*, Mr. Whitney said bone is a permanent manure and will impart something every year. Superphosphate is the same material, but so prepared as to give immediate results.

> A. S. Fuller—I value bone highly. I have used tons of it, and tons of superphosphate, but on the last I would not pay cartage twenty miles to my place, for I have never seen the least benefit from it. I buried a load of superphosphate to get it out of the way. I may mistake in this, but I have tried it on four different kinds of soil and this is my experience. The sulphuric acid seems to burn and vitrify the bone. Now if superphosphate is so valuable why have not gardeners and nursery, men found it out; why not Peter Henderson, the great gardener? Why not Elwanger & Barry, the noted nurserymen of Rochester? And why do they send out their teams from four to ten miles for barn-yard manure? William Parry, of Cinnaminson, told me his manure cost about $7 a load, and he used it before any other. Have they not heard of superphosphate? Here, now, is our friend Quinn, I might say he was brought up in a superphosphate factory, and yet he carefully secures all his manure. My opinion is that one might as well throw his money into the Hudson river as to expend it for any superphosphate I have seen.

This called out Mr. Quinn who claimed that he had made money by farming and by buying superphosphate, and declared that he had bought more of it than any man in the room. He offered to experiment with Mr. Fuller, and leave the result to a committee.

Mr. Stone said that when a manufacturer of superphosphate first starts we get an article that gives satisfaction, but soon it gets worthless, and now most of us go on Mr. Fuller's plan, buying manure and composting with muck.

Mr. Williams had used bone with much greater benefit than superphosphate, which he would use no more. He was in favor of composting muck with manure.

N. C. Meeker bought $12 worth of bone, and a less quantity of superphosphate. The first did most good, but half the money spent in stable manure would have given better results.

ORGANIZE A FARMERS' CLUB.

The farmers of Saco and Biddeford have recently organized a club with the following constitution and by-laws, which we copy from the *Maine Democrat*, as perhaps as good a form of organization as can be devised, at the commencement of operations:—

"We, the citizens of the county of York, desirous of promoting agriculture, horticulture and the mechanic arts, and of co-operation in the acquirement and diffusion of practical knowledge pertaining to the farmer's occupation, agree to form ourselves into an organization for this purpose, and to adopt the following Constitution:—

ARTICLE 1. This organization shall be called the 'Farmers' Club, of Biddeford,' and its officers shall consist of a President, ten Vice Presidents and seven Secretaries, who shall be chosen annually in future years on the first Saturday in October, and who shall severally perform the duties usually devolving on such officers.

ART. 2. The meetings of this Club may be held as often as the members shall decide to hold the same, and be governed by the usual parlimentary rules of organized meetings, except as they may be modified by the By-Laws annexed to this Constitution, which may be altered or amended at any regular meeting of the Club by a majority vote.

BY-LAWS. 1st.—The time occupied by any member at one time, in the meetings of this Club, shall not exceed fifteen minutes, unless the speaker is authorized to deliver a formal lecture, or unless the time is extended by unanimous consent."

SMALL FRUITS.

THEIR CULTURE AND USE.

CONSIDERING their means and opportunities, there is probably no class of our people that neglects so many opportunities for the improvement of the intellectual faculties, and the culture of so many things that have a direct tendency to exalt and calm the mind, as that of farmers. As a general rule, the mechanic, although not possessing half the pecuniary ability, supplies his family with amusements, accomplishments or graces, and the means of gratifying a healthy appetite, in a far greater degree than the farmer generally does. If the mechanic has but twenty square feet of land, he will crowd it with culinary plants and a succession of flowers, and send up a Concord or other grape vine to shade the kitchen windows from July suns, and make home attractive to the children, especially when the fruit hangs upon it in all its purple lusciousness. He tends the spot with scrupulous care. Not a weed defiles it. He gives each plant its own share of room,—clipping an over-grown branch here, and encouraging a feeble bud there, until it stands in the beauty of perfection, and yields fruit, or flower, or root, up to its highest power of production. He keeps the soil so fine, porous and light, that it absorbs every dewdrop that is distilled upon it,—drinks every summer shower that comes to its surface, and carries its ammonia to the masses of roots which everywhere fill the ground. If the season is dry, his soil attracts moisture from the air above it every day. If wet, the air passes freely down among its particles, taking heat along with it and stimulating the halting roots.

His garden—if it may so be called—is a little Eden. Every plant in it is as familiar as the faces around his fireside. He is in it when the dews glisten in the sun's first rays. Coming from school, the children pass to the house through the garden. Its attractions are stronger than those of the dinner table. They pluck a fragrant leaf or flower to adorn the hair, or to present to mother or sister, and home, and dinner, and filial love, are all the better for it.

The *merchant* tires of the counting-room, the ledger, the vicissitudes in trade and the money market. He must watch with eagle eye and active brain every pulsation in commercial affairs; he must not let the golden moment slip, and the glittering profits fall into his neighbor's pockets; he must wait, and watch, and snatch the prize at once, or it is lost! So in his narrow circle, shut out from the fields of air, from the world of life and beauty, he continues his unattractive, daily toils. He longs for acres in the country, where he can feel the unpolluted breath of heaven on his cheek, hear the music of birds and running brooks, and the harps among the pines; where he can enjoy amplitude of thought and motion, and see Nature as she changes her scenes and sounds and forms.

Let us follow him into the country. Where do we first find him? In the garden, where God first placed man! It is not so much a conviction of *utility* that leads him there, as a common instinct that the garden will best supply the first wants of the family; that there, the greatest amount and variety may be produced by the least labor. He is not, nor was the mechanic, a farmer or gardener, and yet it is with such that the best examples of skill and profit may be found. The yard of the mechanic, or the limited farm of the city merchant, may be visited and studied with advantage by the professed farmer, the proprietor and cultivator of extended fields. More actual money profit is frequently gained from the former, than in an equal number of the latter. Evidence of this is every year afforded at our annual shows. If we can succeed in producing per acre, at the same rate which they often produce per rod, we shall astonish the wisest committee that ever sat in judgment on the products of the soil.

Let us imitate their examples in the cultivation of the *small fruits that are adapted to our climate.* A leading one among them is

THE CURRANT.—This fruit is gaining popular favor every day,—still there are hundreds of farms without a currant bush upon them. It is easy of culture, hardy, and will thrive upon a soil that would produce a fair crop of corn. The best mode of getting them is to take cuttings in the spring which have grown the previous summer, and set them where it is intended they shall grow. They should be cut very early, and set as soon as the ground will admit them. They should be vigorous, thick cuttings, and set two-thirds of their length into the ground. We have never experienced any trouble from their throwing up suckers. It is said that cutting the eyes or buds away from the part set in the ground will prevent this. In setting the cuttings, care should be taken to have the earth come close to them at every part. The after care of the plant is simply to thin out superfluous wood once a year, and give them a fair soil and clean culture.

There are many varieties of currants, but three or four of them are decidedly preferable to the rest.

The *Cherry* is a strong grower, with stout, erect, short-jointed shoots; leaves large, thick, and dark green. Valuable for market and preservation. We have not found it a special acquisition to old varieties.

The *Victoria* has very long bunches of bright red fruit; growth spreading; very productive; hangs on the bushes some two weeks longer than most currants.

The *Red Dutch* is an old standard. It is thrifty, grows upright and is very productive. Fruit large, deep red, rich acid flavor, with clusters three or four inches long.

The *White Dutch* is much like the red in habit; fruit larger; shorter bunches, and of a fine yellowish-white color, with a very transparent skin. Less acid than the red currants, and is much preferred for the table. It is very productive and a little earlier than the red. Mr. CHARLES DOWNING expressed the opinion that the White Dutch and *White Grape* are the best of the white currants. The White Grape has moderately long bunches, berries very large, whitish-yellow, sweet and good, and very productive. The branches grow more horizontal than White Dutch.

May's Victoria, La Hative, Knights' Large Red and Versailles, are among the best of the red ones, after the Red Dutch.

The currant is esteemed for its hardiness, quick growth, beauty in the garden, and for its adaptation to use either in an unripe or ripe state. Picked into bottles while green, and sealed up, we have known them kept until late winter, without any other preparation, —and at that season they are highly valued for pies and tarts. Gathered when two-thirds grown, and stewed and sweetened, they make a palatable conserve, they are also used for tarts and pies, along with cherries or other fruits. When ripened and mixed with sugar, they afford a most agreeable and healthful acid. Perhaps no other fruit is more grateful than this, at the tea-table, after an afternoon of labor in the heat of summer. Currant *shrub* is a popular and wholesome drink. It is also thought an indispensable accompaniment to many dishes as a *jelly*,—and in this form large quantities are annually used.

It has become quite common for families to make wine of this fruit, and there is no doubt but it is preferable to most of those which are articles of commerce. It is sweet, of a very pleasant taste, and in cases of debility, is undoubtedly useful. As a *luxury*, even, it would be less injurious than many things which we eat and drink.

The process of making the wine is simple and easy. The fruit should be ripe, and to one quart of juice, three quarts of water and three pound of sugar should be added. The vessel in which it is placed should be kept full until fermentation ceases, so as to throw off the impurities which will come to the surface. It is as well to allow it to remain in this vessel as to bottle it.

The worst enemy to the currant is the new currant worm. The crop in this region was seriously affected by it last year, and throughout Western New York, the crop was entirely cut off. Before the fruit was half grown the bushes were entirely stript of their leaves, and had the appearance of being dead. What were brought into the Buffalo market, sold readily at $8.00 per bushel. Crops in this region have been more or less affected for several years past. Unless some remedy is found to prevent the ravages of this insect, the prospect is that this delicious and wholesome fruit will be entirely cut off.

TO MAKE FARMING HONORABLE.

The following pertinent remarks on the management of Agricultural Shows and of farmer's boys, and on agricultural writers and editors, were made by Z. Breed, Esq., of Weare, N. H., at one of the evening meetings at the late Fair of the New England Agricultural Society:—

The great question, in my opinion, for us to consider, is, What will elevate the character of the farming community, or at least, the profession of the farmer? It strikes me that there are many things tending to depress the farming interest, and to take the attention of our young men from the farm, and that in respect to some of these things we are to blame. The responsibility rests upon us as farmers; it rests upon all the agricultural societies in New England; and in a great measure upon the society that meets here at this time.

I have more than once said, in meetings of this kind, that I would rather a man would take a boy of mine, and cowhide him thoroughly, than to give him a colt. Why? Because if you give a boy a colt, nine times in ten, it leads him directly from the farm, and into society that real, honest, substantial farmers will not like to be found in. I have attended this Fair, and stood here upon the ground attending to my own business, but with some eye to the management. Allow me to critcise the management of this large and influential New England Society.

What has been going on, on the grounds of the exhibition? What has been kept most prominent—and what has not been? It was not the boy who trained the steers; it was not the young man who had trained the oxen; it was not the older farmer with his herd of cows. What was it? Why, it was the fast horse. We are governed to-day by the fast horse mania, and this influence is doing more to crush and break down the influence of real, substantial agriculture in New England, than all other influences combined; and if you, my friends, real, substantial farmers as you are, don't stand up here, or somewhere else, and meet this question, it will still go on, and in less years than have already gone over the heads of your society, and yourselves as members of this society, the fast horse interest will control it, or whatever there is left of the skeleton of it.

Is this so? If it is, it is time for us to speak. I know the strength of this influence, for I have seen it. I have been connected with agricultural societies for the last fifteen or twenty years, and have watched it carefully, and I stand here to-day to tell you that there is but one agricultural society in New England where the real, substantial farmer controls it. Our exhibition last year, was the best exhibition in the State, notwithstanding the efforts made to get up a State agricultural exhibition. I mean the society at Hillsboro' Bridge. There, the real farmer controls it. We have a good, substantial farmer as president; we have a practical farmer as secretary, and we look very carefully to our committees, that they be good, substantial farmers. Unless the fast horse gets the control, we shall continue to have a good society. We had last year a string of oxen that reached clear around the track—a half mile track. What was the exhibition of oxen on the track here to-day? All I saw was a few working oxen.

In regard to interesting our boys in farming, I believe in beginning with them early, and giving them work to do. I believe in putting responsibility upon them. Send them to do a piece of work, and if they ask you how they shall do it, tell them to go and do it to the best of their ability; and if they fail, and you lose five dollars because of that failure, they will get experience that will be worth perhaps five hundred dollars to them. How many of us do this? How many of us put a basket of grain into a boy's hands, when we are ready to sow, and tell him to scatter it to the best of his ability, and leave it to his own judgment. I have done it a little, and I have seen the effects of it. We don't manage our boys right. We get up in the morning and say, "John, go and get the oxen, and yoke them;" and, if he asks what we are going to do, we say, "No matter; go and get the oxen;" and the boy goes away with a kind of sour feeling, and with no interest in what is to be done during the day; whereas, if we took him over night, and asked him what he thought had better be done, and interested him in what we proposed to do, he would be ready to go to work in earnest. I don't stand here to brag, but I have pursued this course with one boy, who, after going away into other business, came to me and said, "I can come home and work with a great deal more relish than I can go anywhere else."

There is another thing that has a tendency to reduce the respect of outsiders for the farming interest, or at least for agriculture, and that is, there are so many who are fond of writing upon agricultural matters. I will relate a little circumstance, to show you that an agricultural writer can be mistaken. A certain agricultural editor received a letter inquiring when was the best time to shear sheep. That is a very important matter with sheep-raisers. A man should have a great deal of judgment to find that out. Well, the editor sits down, states the question, and sums it up in this way: "We have had no experience in the matter, never having raised sheep or grown wool; but we presume that when the old fleece ceases to grow, and the new fleece commences, is the right time to shear." So it seems that we need not only intelligent writers, but intelligent editors, for our agicultural papers. I think that an agricultural paper, edited by a practical farmer, a man who can show the hard bunches on his hands, is worth a dozen edited by men who carry a quill behind their ears, and have hands as soft as a woman's. It strikes me it is certain evidence of intelligence in an agricultural editor, to be able to use the hoe, and use it as he ought to use it.

IMPROVING WORN LANDS.—The *American Farmer*, of Baltimore, gives an account of the manner in which a poor worn-out piece of land was brought into a high state of fertility. The most unpromising part was a field of blowing sand, so poor that the rye sown on it did not produce the seed the year that the improvement was begun. "Its poverty was still further illustrated the following year by a growth of common field (black-eyed) peas not exceeding six inches in height. This crop of peas was designed to be made the basis of improvement, but we should expect little result from the small quantity of vegetable matter thus furnished. Nevertheless with it was applied fifty bushels of fresh lime. After this twenty bushels of coarse ground bones were put on and a dressing of three hundred pounds of Peruvian guano, to produce a crop of wheat. It was sown at the same time with clover and grass seed, which after standing two years was followed by corn. After this another crop of peas, with a moderate dressing of bones and guano, brought forty bushels of wheat to the acre. The land was from that time considered improved, and ever since has brought highly profitable crops. All expenses were paid in five years' crops."

CAUSES INFLUENCING THE YIELD OF MILK.

At a recent meeting of the Connecticut Board of Agriculture, when the subject of neat cattle was under discussion, one farmer, a Mr. Weller, made some very pertinent remarks in regard to the care and management of milch cows. He had a dairy of nineteen cows, and he finds that it is important to keep his stock where they will not be disturbed or excited. He gives an instance of the effect of any unusual noise in lessening the quantity of milk, since it was found that the noise from a threshing machine made them fall off twenty quarts per day. We have no doubt as to the truth of this statement, since we have repeatedly observed similar results, in the yield of milk from cows disturbed by any unusual noise.

Many farmers do not seem to understand the fact that fear, or any undue nervous excitement of the cow has a powerful influence in lessening the quantity of her milk, when the most common observation should teach them that it is so. We have seen men used to stock all their lives, who understand and practice milking every day, who will not believe in any such influence, at least if their management of stock be taken as an index. We have often wondered why men who are of a naturally saving disposition, and who would be shocked to see a pint of milk spilled in the milk house, should allow quarts and gallons to be lost in their bad management of the herd in the stable, kicking cows with heavy boots, striking with stools, and keeping the animals in a constant strain of nervous excitement and fear. We have no doubt that the quality as well as the quantity of milk is influenced by undue excitement and nervous agitation. Indeed, in more than one instance have we found milk badly injured on account of the animal being put in a fright, and we do not see why any extreme agitation of the cow should not at all times have more or less influence on the character of milk which she gives, especially if it be drawn during or immediately after such nervous excitement.

Whatever view may be taken upon this question, it must be observed that those persons who are so careful of their milk stock, keeping the animals quiet and having them familiar so as to be easily handled, always succeed best in obtaining extra quantity of dairy products. We have been about a good deal among dairymen and farmers and we have yet to learn of any herd producing an extraordinary quantity of milk when the animals were harshly treated or kept in fear during the milking, no matter what the breed of cows or their extra feed. We have uniformly found the best results where the animals were treated tenderly and no talking or noise allowed while milking. We hear much complaint of late years of poor milch stock, bad luck with herds and low yields of milk, and we are sometimes inclined to believe that the fault is not so much in the *four* legged beasts, for it has come to be quite rare that "help" can be employed that will treat stock kindly unless constantly under the master's eye. We have a State law affixing a penalty and making it an offence to be caught adulterating milk carried to the factories. We need another law making it a penal offence to be caught abusing milch stock; for if it be true that diseased or bad milk comes from such abuse, then the person offending is in every way as guilty of a crime as he who simply puts water in his milk.—*Utica Herald.*

THE SACRIFICE OF SHEEP.

After giving some instances of recent sales of sheep in Michigan at ruinously low rates, and alluding to previous extreme ups and downs in prices, to illustrate the tendency of the American people to run into extremes, Mr. Sanford Howard, of that State, in an article written for the Lansing *Republican*, says:—

It is a common result in all undue excitements, that the reaction produces the opposite extreme, and an article which has been valued too high, falls too low. This is the case in regard to Merino sheep. They are valuable; their importance to the country is beyond estimation, and the sacrifice of them is to be deprecated.

But the late speculation in Merino sheep was based to a considerable extent on two errors: it looked too much to the production of one kind of wool only, and it attempted to set up, in many cases, a wrong type or model, in reference to the sheep producing this wool. The country requires various kinds of wool, as any one might know who would pay attention to the different styles of goods used. It is to a great extent the glutting of the market with wool adapted only to one class, or to similar classes of goods, that has brought the price so low. We have confined ourselves almost entirely to the production of Merino wool. To be sure it has not all been full-blood, but that was the kind aimed for. All through the period of depression, good long wool has been in demand at prices almost double those brought by common Merino. And the description of wool adapted to the manufacture of fabrics known under the name of *delaines*, has been, and is now in good demand at more remunerative prices than the finer clothing wools bring, excepting the very finest class adapted to the manufacture of broadcloths. A late Boston report on the wool trade, says: "Combing wools are very scarce, and so much wanted that sellers are able to make their own term." In regard to medium wools, it says: "Owing to the prevailing style of goods wanted for general distribution, the demand for medium wools continues very active, and the market was never so bare of these grades of staple at this stage of the season, as it is at the present time." A judicious diversity in regard to the breeds of sheep kept in the country, by supplying a proper quantity of the various kinds of wool wanted, would have rendered the aggregate production more valuable and more remunerative to producers.

The error in regard to the points or properties of sheep, the propagation of which was encouraged by high prices, consisted in an attempt to produce worthless matter in the fleece—giving to it weight and fictitious value—and in covering the sheep with a skin so wrinkled, doubled and folded, that the fleece was very uneven—the ridges producing coarse wool, mixed with stiff hairs, while the spaces between the ridges produced much finer wool—the different staples alternating over the body of the sheep, according to the ridges and hollows. This greatly debases the quality of the wool. The fleece cannot be sorted, and it must all go into a lot corresponding to the inferior portion. The object should be to produce an even fleece; whatever the grade, the more uniform the fleece, the more readily can its proper place be assigned, and the less labor it is to prepare it for manufacture.

The downfall of speculation will probably break up and destroy the false standard which has prevailed in regard to the characteristics of Merino sheep. Many of the sheep will be swept away, but a remnant, composing those really most valuable, will be saved. A truer standard will be adopted in breeding, and good profits will be realized from the animals.

Drying Pumpkins.—Pumpkins may be put up in the old-fashioned mode of cutting into rings, paring and drying upon poles; or they may be cut into small pieces and dried on plates in the sun or oven. A better plan, however, is to pare, stew and strain them, just as if for pies; then spread the pulp thinly upon earthern dishes, and dry quickly in a hot sun or a partially heated oven. If dried slowly, there is danger of souring. Store in a dry room. Kept in this manner they retain much of the freshness and flavor of newly gathered fruit. The dried pulp should be soaked in milk a few hours before using. In making pies they are greatly improved by stirring the pumpkin in scalding milk, especially if eggs be not used; but without eggs they fall far short of the true "pumpkin pie."—*Germantown Telegraph.*

HORSE RACING IN ENGLAND.

The advocates and apologists of this sport in our country are very fond of referring to the fact that all classes in England, even the "gentry," attend the races in that country, and of commending the system of management there adopted. But however respectable may be the management or the attendance, the results and tendencies of racing appear to be about the same everywhere. What they are in England may, perhaps, be fairly inferred from the following sad notice of one of her most noble patrons of the turf, which we copy from the *Boston Daily Advertiser*:—

> The death of the young Marquis of Hastings closes one of the saddest histories in the annals of the English aristocracy. It is but five years since this unfortunate nobleman came of age after a long minority, and succeeded to estates said to have been worth eighty thousand pounds a year. His grandfather, the first marquis, was a distinguished statesman and Governor-General of India; his mother, grandmother and great-grandmother were all heiresses and peeresses in their own right, and he was one of the few persons entitled to quarter the royal arms of Plantagenet. Born to this high position he has been utterly ruined by his passion for the turf. Before he was of age, he was summoned before a magistrate and fined for cock-fighting, and since then he has devoted all his time to horse-racing, in which pursuit he has been the victim of every species of rascality, until his fortune was entirely gone, most of his estates sold, and those remaining heavily mortgaged; and during the last summer he was charged with having attempted to retrieve his fortunes by frauds as gross as any which had been employed to cheat him. The only excuse which can be made for him is that he was a weak young man, early left an orphan, easily duped by the blacklegs who now take the lead on the turf, and entirely unfitted for the position to which he had been born. His misfortunes had preyed upon his health, and for many months he has been seen wandering about leaning on a stick like a decrepid old man, shunned by respectable people, and excluded from society.
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> The Marquis dies without issue, and the marquisate and Irish earldom of Moira become extinct, while the Scotch earldom of London passes to his sister, Lady Edith Hastings, and the ancient baronies of Hastings, Botreaux, Hungerford and Grey de Ruthyn, fall into abeyance between her and her younger sisters.

—Michigan offers for sale 240,000 acres of public land given to the State by the general government for an agricultural college. The land is all in Michigan.

HOP RAISING AT THE WEST.

THE hop raisers in Wisconsin and in Michigan appear to have come to grief very suddenly. We have been told, during several weeks past, that their crops were greatly injured by lice and blight. But it seems there are more hops in the market than can be disposed of at a remunerative price. Three years ago hops sold for from fifty to sixty cents, and now they are selling in New York from five to twenty five cents per pound.

Having been familiar with the business of hop raising in our younger days, we were called upon two years ago to write upon the subject, with the view of encouraging the farmers in New England to go into the business; but we objected because we did not believe that they would find it for their interest to do so. We did, however, at the special request of many subscribers, publish directions for their cultivation, but have frequently cautioned farmers not to make hops a specialty. Hop raising has always been a very uncertain business, and the price has been extremely fluctuating. Fifty years ago we knew the price to vary from seventy-five cents to eight cents per pound.

We are told the Wisconsin farmers propose to plough up their old hop yards. The same thing happened within our experience in former times. When hops were fifty cents per pound every body rushed into hop raising; when they fell to ten or eleven cents, every body ploughed them up. Now this is unwise. Those who are in the business and have made investments in kilns and bins, and the apparatus necessary for carrying it on, will be able to go on without making any further outlay, while the present low prices will deter others from going into it, and consequently they will have the field to themselves. The profit of hop raising must not be estimated by the result of any single year; but, like insurance, by the results of a series of years. In insurance, the result of one year or of two years may be disastrous, and yet when pursued for a number of years it proves a profitable business.

The demand for hops is limited, and while a short supply always greatly increases the price, a small amount above the demand always depresses it. It would be as unwise for the hop raisers to plough up their vines, as it is for the wool growers to sell off their sheep, because wool is low.

Hop raising cannot be profitably carried on except where the poles are cheap, and the land is good. In New England young trees are worth too much to be cut up for hop poles. They had better stand till they are large enough to cut for fuel or timber. Fifty years ago birch poles were worth $2.50 per hundred, now they are worth six or seven dollars, and maple and oak poles are worth ten dollars, and the poles are an important item in hop raising.

But our great objection to hop raising in New England is that it requires a large amount of manure, and makes no manure in return. The farmer who cultivates a hop field well, so as to get a good yield, has no means left for a crop of corn or grass, and of course his stock soon fails, and he will have no manure to apply even to his hops. Where the soil and climate are such that a heavy dressing of manure is necessary in the culture of hops, the business is perfectly ruinous to the farm—as any farm operations must be in the end, that do not furnish food for stock. Without consuming the crops on the farm, the farmer's business must soon come to an end, unless the soil will yield a crop without manure. In the new lands of Wisconsin we suppose a crop of hops may be raised for a few years, certainly, with little or no manure. But in New England this cannot be done. We could not, therefore, conscientiously advise farmers to go into the business. When some commercial manure can be found that will produce a good crop of hops, and some means of training the vines, besides cutting out the thriftiest and straitest young trees in the woods and forests, our views on the subject may change.

SILESIAN SHEEP.

According to the account furnished for Dr. Randall's American Shepherd, by William Chamberlain, of Red Hook, N. Y., who imported forty ewes and fifteen bucks in 1851, and who has made several importations since, the Silesian family of Merino sheep was established in Wirchenblatt, Silesia, in 1811, by the father of Louis Fischer, the present proprietor. It sprung from stock selected from the choicest flocks in Spain, consisting of one hundred ewes of the Infantado flocks, and four Negretti bucks. Dr. Randal says, "wherever it is most profitable to grow very fine wool, this variety, or rather this family, ought to stand unrivalled. They meet the same want in manufacturing that was formerly met by the Saxons, while they are greatly larger, hardier, and heavier fleeced. Broadcloth and various other manufacturers need such wool, and it is not supplied by the heavy-fleeced American Merino. All who desire to see *all* branches of woolen manufacture flourish in our country will be glad to see the Silesian sheep more extensively introduced."

One of the objections of the manufacturers to the present tariff on wool was that as our farmers did not raise wool suitable for fine broadcloths, hats, &c., it must be imported. Fine wool as well as the coarse combing wools can undoubtedly be raised in the United States. The great cause of the present depressed condition of the wool growing interest in this country is the fact that too many farmers made a specialty of one kind, the heavy fleece Merino, leaving the manufacturers of worsted goods to depend on Canada, and the manufacturers of broadcloths on South America, the Cape, &c., for the raw material.

Mr. Chamberlain gives the weight of five of his Silesian ewes at 115, 140, 130, 115, and 127 pounds, and of three bucks at 145, 155 and 158 pounds. Their external color is dark. The wool of eight months' growth is from one and a half to two inches long. Medium aged ewes shear from eight to eleven pounds, and bucks from twelve to sixteen pounds, unwashed. They are good breeders and nurses, but do not obtain their full weight until four years of age.

Mr. C. S. Woodard of Hotchkissville, Conn., commenced a flock of Silesian sheep in September, 1866, consisting of one ram and nine ewes over a year old, and three ewe lambs under a year old. He writes to the Boston *Cultivator* that in 1847 he raised nine lambs from his nine ewes, the clip of wool was fifty-three pounds, which in consequence of its fineness sold for 85 cents per pound, making $45. One lamb was sold for $6. Estimating the other eight lambs at the same value, and including $31 obtained as premiums at Fairs, he makes an aggregate income of $130.05 from thirteen young Silesian sheep. With this result he was so well pleased that he has since increased his flock, by purchase, to forty-two in all.

For the New England Farmer.

CROSSING BREEDS OF SHEEP.

In your issue of October 17, you have a leader on the so-termed Anglo Merino sheep. This breed was the result of an attempt to graft the fleece of the Merino upon the carcass of the Leicester. You quote Lord Western as saying that the wool was equal in quality to the Merino. Now, sir, we have no doubt that Lord Western thinks so. But we are satisfied that Lord Western does not know much about the quality of the fleece of the Merino sheep. What he says about the carcass of the sheep and the weight of his wethers we are satisfied is correct, and also what he says with regard to the weight of the fleece. We do not know whether Lord Western has succeeded in producing a permanent type of this peculiar grade or not; but this we do know that the cross is not new in America. We have seen large quantities of wool produced by a cross between both Leicesters and Cotswolds, which is a very desirable class of wool for some kinds of combing and a most splendid delaine wool. In 1852 Isaac King, Esq., of Palmer, Mass., had a flock of Leicester ewes which were aged; the wool was coarse, slippery, cotted and hairy. Combing wool was not in demand then as it is now, but there was a good demand for delaine wool. Mr. King had sold his wool for a number of years to the Hamilton Woolen Company of Southbridge. Thos. Whitaker had the charge of the sorting at that time, and bought the wool. But Mr. King having bred so long from his ewes without renewing his flock, till his wool was nearly run to hair again, Mr. Whitaker refused longer to buy his wool, without he took measures for improving it. After consultation and at the suggestion of Mr. Whitaker, Mr. King went to Vermont and bought as long a stapled Merino buck as he could find, to which he turned his ewes, and the result was one of the best delaine wools ever raised either in America or England. It was not as fine as the Merino, nor as long or coarse as the Leicester; but what the Leicester lost in length of staple, the Merino made up in fulness of fibre, so that there was no loss in weight of fleece. At that time Mr. King got more for his wool than he could obtain either for the Leicester or Merino. Such wool to-day is worth fifty-six cents per pound. His lambs sold as readily to the butcher, and for as good prices as formerly; his wethers weighed when slaughtered, at two years old, from one hundred to one hundred and fifty pounds. Others have crossed the Cotswold with as good results; and much of the wool raised in the State of Maine is from crosses of the Merino with coarse wools. This wool during the present season has been in good demand, and has brought good prices.

The Southdown and Merino produce a most excellent cross, and so far as size and extremes are concerned are not so objectionable as the cross with the large, long wooled sheep; and so far as wool is concerned, the Southdown and Merino produce an excellent delaine quality. The ewes also are excellent nurses, while the mutton is nearly equal to the pure Southdown. Prof. Miles of the Agricultural College, Michigan, has experimented to a considerable extent, and the result of his efforts is that he produces a wool more valuable than either the pure breeds; more hardy lambs and mutton little inferior to the pure Southdown. The wool is not so fine as the Merino, but it is longer; neither is it so coarse and fuzzy as the Southdown. We would have it understood, however, that these cross-bred wools are not so valuable as the pure bred Leicester and Cotswold at the present time; but we think the time is not far distant when they will be as valuable as either. MENTOR.

Boston, Nov. 11, 1868.

For the New England Farmer.

CULTIVATION OF CRANBERRIES.

The several inquiries in regard to the cultivation of the cranberry which have recently appeared in the FARMER, have induced me to believe that twenty-five years of experience in the cultivation of this fruit, may furnish material for an article which possibly you might think worthy a place in the columns of your valuable paper.

To the individual who desires to engage in the cultivation of this fruit, the first and most important question to settle is the character of the soil and the nature of the surroundings necessary to secure a good crop. To those who have given the subject but little attention, a tract of land which is filled with water throughout the season is considered one of the most favorable locations. But this I believe to be a mistake. From observation, I am convinced that the soil during the months June, July, August and September, should be thoroughly drained from twelve to eighteen inches below the surface, except at such times as it may be necessary to flow it for a few hours to kill the worms or protect the vines and fruit from frost.

The most favorable location I believe to be where the soil is peat from one to several feet in depth and where the surroundings are such that during the summer months the water can be thoroughly drained off at least one foot below the surface, and at the same time such that the water can be let on in a few hours in a sufficient quantity at any season of the year to cover the surface from four to six inches in depth; and also in the vicinity of a good sand hill. He who has a location like this, if it be but a few acres, possesses a very valuable piece of property, and any individual with ordinary capacity for business may in a few years obtain from it an income sufficient to place him in comfortable circumstances.

In preparing the soil the surface should be removed down to the peat; it should then be covered with at least three inches of sand, or when this cannot be readily obtained I have found fine gravel to answer a very good purpose.

Branch and Fruit of the Cranberry.

In selecting plants care should be taken to use only such as are known to produce good crops. I have found that while some varieties produce four bushels to a rod, others on the same soil and with the same care, produce only one bushel. The month of May is undoubtedly the best time to transplant the vines. The water at the time should be nearly even with the surface and kept so for a week or ten days, and then gradually drawn off. The vines should be set singly, about six inches each way. The first season great care should be taken to keep out all grass and weeds,—after that if the location be a good one and the plants properly set, but little labor will be required to keep down the grass; if possible they should, during the winter, be kept covered with at least two feet of water, nor should they be left entirely out of water until all danger of frost in the spring is over; for, what is very singular, while the blossom buds are able to withstand our coldest winters, a very slight frost the last of May will kill them, and entirely ruin the crop. This is a fact not so generally known as it should be. When the worms make their appearance, the flowing of the land for a few hours is sufficient to destroy them. If during the month of September there should be any days which promise to be followed by frost, the water should be let on and the fruit thus protected. But the length of this article will not permit me to enlarge. E. Hersey.

Hingham, Mass., Nov. 10, 1868.

Remarks.—Even after "twenty-five years' experience" few men could condense so much information into so little space as this communication occupies. While we thank Mr. H. for his valuable facts and suggestions, we would assure him that the brevity of "this article will permit him to enlarge," to the great benefit of the readers of the Farmer, on this or any other subject.

STOCK BREEDING.

At the farmers' meeting at the Maine State Fair, on Wednesday, Mr. Thomas S. Lang, of Vassalboro', gave a very interesting address on stock breeding, which we copy from the Boston *Journal*. It is worthy of careful perusal:—

The farmer labors for subsistence that he may supply the necessaries and comforts of life, and add thereto those pleasures which are the reward of earnest toil and thoughtfulness. If you admit this, then comes the question, how shall we best acquire what we deem necessary or pleasurable? I have used the word thoughtfulness; it is applicable. By thoughtful, careful study of nature, and the laws which govern the production of all things, we shall be led to satisfactory results.

Thus to breed stock with success, we are governed by general laws of reproduction. It is an aphorism that "like produces like," and this is in the mind of every farmer's boy a tacit acknowledgment of the law of compensation or return, which governs every conceivable condition of life. As you breed, such will you produce. The question may arise, in this strictly true? I believe it, and if wrong, desire to be set right. Some of you who are stock breeders may say that this, the rule of "like producing like," is not absolute. I am aware it is not, in detail, and one often finds circumstances quite puzzling in his experience. But what staggers one, said he, is to find two fine animals bred together, producing marked qualifications of preceding sires or dams. These are facts which no breeder doubts who has given attention to his business. Mr. Goodale, with all accepted authorities upon this subject, urges that, to breed successfully, you must breed in the line.

First, the breeder ought to know what he desires to accomplish before he takes the first step toward breeding. What are the natural advantages, said Col. Lang, of the location in which you are placed, is the first question for you to decide. Is it better adapted for breeding cattle, sheep or horses? If you select cattle, which breed is best adapted to your farm or location? If for beef, that which furnishes the most pounds of beef in the shortest time is the one. If, however, you desire to make profit from the dairy, a different class must be selected. If your lands are high and rocky, they would be adapted for sheep and the more hardy breeds of cattle. The Short-horn or Dutch cattle cannot be as profitably raised upon such land. This matter of adaptation is an important one, and not studied with sufficient care by those farmers who breed stock beyond the necessities of home.

Having selected the locality, now comes the selection of the animals of the breed desirable. If for beef, there can be no question that the breed that matures earliest is the best. Time is an important point. Suppose we fix that an average amount of food given an animal up to three years of age yields 1500 pounds of beef, how much is gained over that animal which requires four or five years to arrive at the same weight? Here comes the advantage of breeding to a given qualification. It is a question of vital importance.

I have spoken of time as important to be considered, and this may lead you to remember the law of compensation referred to, which, if true, would lead one to suppose that the 1500 in three years would take a corresponding amount of food, as if fed to an animal in four or five years. This is not true. What I wish to convey is, simply, that the three-year-old has characteristics to assimilate more food to beef in less time. You find certain times or conditions in an animal's life that it seems almost impossible to lay on flesh, feed them ever so well. Then, why not find a class of animals that, with a given amount of food, lay on a double amount or nearly so from constitutional habit, health, vigor and power of assimilation?

If you work your animals, you draw upon animal economy, and extra feed must pay for labor. A combination of milking, labor and beef qualities, seems to be the aim of the majority of farmers. "We cannot have the bread and eat it," is a proverb well understood. He who breeds to milk capabilities, must to a certain extent lay aside others, as asserted. Again, it is well known that stock bred to milking properties admit of different classes—for instance, a Jersey cow gives you milk, the cream of which, in some instances, is fifty per cent butter, while the cream from some cows will not make butter without much effort, and some not at all. I have several instances of this in my mind; yet these cows grew the finest calves. The Dutch stock, for instance, have been mostly bred for cheese making; they do not excel in butter making, but excel all others in growing their calves. The best milk for butter is poor milk to grow stock.

A point worthy of discussion in this connection, which my own small experience endorses, is, that what forcing a calf or other young animal has the first six months, especially the first three months, determines his subsequent value. I know that what is not done for a colt in the first eight months, cannot be remedied afterward. And on this point I will urge breeders to spare no pains or extra expense in feed or care of the dam four months before foaling, and for six months after, if she feeds the colt so long. While the bone is forming in the colt, give it all that will be of benefit to it. In some the bone attachments become more positive, and such animals are less likely to meet with trouble incident to weak, underfed animals, ringbones, spavins, curbs, &c.

I do not assume to urge this point upon you as notional ideas of my own, but as the experience of better observers than myself. While in Europe, in 1867, I visited several times, a large breeding establishment where twelve different breeds of cattle were kept, and in conversation with the herdsmen this point was dwelt upon as very important, especially in the breeding of representative animals of stock, as a horse or a cow. The herdsman said, "Feed strong while a calf. If he will take the milk of two or three cows, give it. You will be paid. In other words," said he, "hoe and weed and water the plant while it is growing, if you care for its perfection." A few weeks since a letter from J. Keene Richmond of Kentucky, who has expended so much in bringing to this country from England and Arabia the finest horses in the world, urges the necessity of feeding the mare and foal that the growth of the colt may be as great as possible while the bone is forming.

Having selected the *class* of animals one wishes to breed, the selection of the *animal* is of the first importance, for in the finest herds or flocks of carefully bred animals are to be found those which do not represent their class, and are incapable of transmitting the characteristics desired. The safe way is to select representative animals that do breed in line. A defective animal may breed fine progeny, but the progeny may breed the defective sire or dam's qualifications. Therefore the breeder should be sure of a sire as nearly perfect as possible in physical qualifications, and also one that has proved his get to be so. The more generations of fine animals in the line, the more certain of success in breeding them. However good a sire or dam may be, selected from mixed stock bred out of line, the chances will be often against you to breed like sire or dam. I speak more particularly of horses, but believe it is equally applicable to other stock.

Were I to select horses to breed as close to perfection as possible, I would select only such sires as were bred in a long line of careful, judicious breeding, to the qualifications desired, either for speed, the sixteen-hands carriage horse, or the horse for draft and work, endeavoring, at the same time, to select color, style, movements and temper, in each generation, as far as possible; then I should feel quite sure of success. I would go further, and never accept a dam who had been previously bred to a defective horse, as his defects often crop out in the subsequent progeny, although by a good sire in the line desired.

I have in my stable a chestnut gelding, sired by Gen. Knox, who is black, and the gelding's dam is white, and the grandsires on both sides are white and black, yet the gelding is the color, marks, temper and gait of the sire of a colt dropped prior to her being bred to the black horse, and a very close resemblance to that colt by the first sire. I have seen repeated instances of like results in the course of my breeding.

Another point desirable in the sire or dam, if we wish to reproduce him, is thorough health and nervous energy. Let his constitutional powers be as perfect as possible. I often hear surprise expressed at the uniform gait given to colts by the stallion Gen. Knox. I attribute the marked similarity to the splendid health and determining energy of his constitutional habit. Impair it, and those mares who possess energy will blot out his influence in their progeny.

Ill temper is always to be avoided, as it unfits an animal for efforts of high speed or draft, and is always unsafe. How many breeders carefully consider the points necessary to success in their efforts, but accept such chances as may be thrown before them, at a small price, or such sires as are of easy access?

In selecting a mare for breeding a fine horse, select such as will be sure to sustain the colt after its appearance, and as the sire as a rule gives general configuration and motion, let her add to and sustain them by her nutritive powers, giving constitution and energy. Let her temper be good, yet filled with nervous susceptibility, bearing in mind that the most nervous animal becomes the most tractable and easily trained or educated. If I could fix the matter, no mare who had a constitutional defect should ever be bred. A dam having spavins produced by light muscle attachments, or light muscles, or ringbone, or a cup produced by an ill-formed leg, is unfit to breed. Mechanical injuries, not produced by constitutional defects rarely do harm. No dam, imperfect in form or stature, of bad temper or bad feet, should ever be bred, and if a certain color is desirable breed to that.

Before closing I wish to refer to the term thoroughbred as accepted by the public. I believe in thoroughbred animals, and in their power to reproduce their kind, but I do not believe in assuming that animals are worth breeding because they are recorded in the herd or stud book for several successive generations. I have seen many worthless recorded thoroughbred animals, very far from well bred; and also I have seen many thoroughly bred animals which could not be found in the stock or stud book. I approve of the record by all means, but the thorough breeding does not make the record. The time may come when men of wealth and leisure and culture will give their money and time and research to this interesting subject. I do not know of a more noble undertaking for such than to advance the interests of a State like ours in this respect,—an interest to be felt in every household in Maine.

AGRICULTURAL FAIRS IN KENTUCKY.

From the accounts which we have seen of the Fairs in Kentucky, we infer that they have been unusually successful the past season. The following picture of one of these exhibitions brings out a social feature which may be too much wanting in our New England Shows, and may afford farmers and their families a hint worth considering. It is from the Lexington *Home Journal* :—

No people in the world probably, understand better than Kentuckians, the art of getting up such interesting and instructive exhibitions and of extracting from them the largest amount possible of pleasure. They think of them, and prepare for them months before hand; every animal or article to be shown is taken in hand and brought to the highest state of perfection, and every member of the family, and often an entire neighborhood feel a personal interest and pride in the success of this entry. Then, when the Fair is held the inducements to draw a large crowd are numerous and strong. As hospitality is a characteristic of our people, every family and frequently several families will unite in their culinary arrangements, and at dinner time such bounteous repasts are spread —consisting of every substantial and delicacy that could be thought of or provided—as would make a royal feast look poor by contrast. Such joyous junketing under the spreading greenwood trees, it is well worth a day's travel to witness and several day's ride to participate in. Never did Epicurus or Heliogabulus or any of the ancient lovers of good eating have opportunities to titillate their fastidious palates at such glorious symposiums. The hospitable host and his estimable wife, while entertaining assembled friends, invite all who may need such attentions to their tables. Everywhere people are enjoying themselves. It is the eagerly anticipated annual respite from business confinement, the daily toil and household cares, and young and old make the most of the festive occasion. For pure unalloyed enjoyment, commend us to these autumnal gatherings in Kentucky.

In contrast to the above the *Country Gentleman* publishes a communication from a "highly intelligent and well informed farmer," in which a Northern "Modern County Fair" is described, by commencing with the following sentence :—

"*Almost every body was there—except plain farmers.*"

How shall a more general attendance of "plain farmers" be secured at our New England Fairs?

EXTRACTS AND REPLIES.

WARTS ON CATTLE.

I have a steer which has a wart growing on the top of its head, and can I, through the columns of your paper learn how to do away with it?

Wayne, Me., Nov. 10, 1868. A SUBSCRIBER.

REMARKS.—In doctoring warts it is desirable to understand something of their nature, shape, &c They are sometimes removed by tying a small hard string or cord around them, and occasionally tightening it till the wart comes off. Sometimes they are cut off, and the roots cauterized by a hot iron. Mecurial and other dangerous preparations are also successfully used. As a sample of "cures" we copy the following from the *N. E. Homestead*: "If lunar caustic be rubbed on the surface after the tough end is pared well, a cure is generally effected. It should be repeated several times, if necessary. One drachm of muriatic acid added to three drachms of muriated tincture of iron, the acid nitrate of mercury, one drachm of arsenic added to one-half ounce of strong nitric acid, all of them will accomplish the object. Compound alum water, juice of sumach, garlic, milk weed, strong sugar of lead water, &c., have some reputation as remedies. The strong acids will, however, do best, where the scissors or string will not answer.

If the acids are used, the parts close by the wart should be smeared with oil or lard, to prevent the acid from spreading and making a sore. If it is seen to be working too deeply, soda and pearlash water sopped on, will stop further action."

BOTS IN HORSES.

We have received a copy of a pamphlet entitled "The Farmer's Friend, the Horseman's Guide, and Horsemanship Made Easy in one Lesson, by Dr. H. S. Rarey, Columbus, Ohio;" also a communication from the same writer, dated at Perkinsville, Vt., on Bots in Horses, in which some "new ideas" are advanced. He regards bots as a part and parcel of the horse—"one of his natural organs," as much so as his heart, lungs, eyes or ears, and equally inseparable, except by the surgeon's knife. The colt before it is foaled and the horse at five or twenty years of age have the same number of bots —500, "neither more or less." They are "placed in the stomach to take up the food as it enters that organ in a rough and coarse condition, and to grind and convert it into chyle and gastric juices for the digestive organs!" Thus bots, in effect, save the horse the time and labor to which animals are subjected that chew the cud. Instead of being injurious, therefore, bots are an essential and an economical part of the digestive apparatus, and one might as well attempt to physic away a horse's kidneys as his bots.

The theory of veterinary writers that bots are hatched from the nits or lice on the legs of horses, finds little favor with Mr. Rarey. He says that horses in warm climates where the Gad fly is unknown, and in stables where it is not admitted, have as many bots as those exposed to it. He regards the idea that a bot changes to a fly as absurd and contrary to the laws of nature, and declares "it is impossible to make a fly out of a worm."

If the last remark of our correspondent is a fair specimen of his knowledge of natural history, we think he is hardly qualified to assume the position of teacher, and should advise him to review the evidences on which he bases his "new ideas" on the subject of bots in horses.

TO PRESERVE THE FERTILITY OF UPLAND FARMS.

In the NEW ENGLAND FARMER, October 31, I read the report of the discussion by the Irasburg, Vt., Farmers Club of the question, "How can an upland farm be cultivated and kept from running down?"

I propose to answer that question from my own experience. Arrange the stable for cattle with a trench behind them, sufficiently tight to hold water, sixteen inches wide and four inches deep. Then put in the trench muck or loam, at the rate of a wheelbarrow load to five or six animals every day, and clean the stable daily into the barn cellar or under a shed, where it will be out of the weather. If hogs are kept upon the farm, put a cellar under their pen and supply that with muck, and clean it out as often as it gets thorougly wet. For each pen of two hogs that are full fed with milk, use a cart load of muck and as much bedding every week. As much muck or loam should be placed under the outhouse and sink-spout as will save all the liquids there. The barnyard should have muck enough to save everything dropped in it in the shape of manure. If all this is faithfully done, I know, from about a dozen years' experience, that any good land will produce hay and satisfactory crops, and increase in fertility as long as this system is followed.

The right application of manure I think very important, but I suppose no man will wish to be told how to do that. W. S. GROW.

Westboro', Mass., Nov. 9, 1868.

REMARKS.—Why do you think so? There is scarcely any operation in farming on which practice and opinion are more unsettled than in regard to the application of manure. In England some farmers steep their manure in water, and by means of pipes or casks apply it in a liquid form. Some get it out in the spring, others in the fall. Some shovel it over two or three times, others apply it as it comes from the barn. Some plough it in, others prefer the harrow. Some cover it deeply, others lightly. Some apply it in the hill, others broadcast it. If your farm is constantly increasing in fertility from its own resources, under your system of manuring, we can warrant you as attentive a set of readers for what you please to say of your mode of applying it as your remarks above on making will secure. Probably the knowledge you now possess would have been worth considerable to you twelve or fifteen years ago. Will it not be equally valuable to those who are now young, or who are lacking the experience you have had? Please give us your views of the right way of applying manure.

SAUSAGE MAKING.

Will you please to tell me, through the FARMER, the best mode of making pork sausage. By so doing you will greatly oblige MARINDA.

Pittsburg, N. H., Nov. 4, 1868.

REMARKS.—We hand this request over to the women folks who know how to make good sausages. But as there are different ways of doing the same thing, and as probably the great object of Marinda, who, we presume, has her own way, is to learn how others perform the operation, we copy from the *Country Gentleman* some directions which were given by several housewives in reply to a similar inquiry. A lady in Missouri says, "The fat portion of the pig should be mixed with the lean at the rate of one pound to four, if desired to be very rich; if not, use less of the fat. Pass the lean meat twice through the sausage mill; chop the fat very fine, as grinding reduces it to a paste and it is lost in frying. Those who like it smoked can stuff it, but an excellent way to preserve it until spring, say June, is to fry it in balls the size of an egg. When done, lay it in jars, covering with melted lard, and tying down with strong paper." This lady says a larger quantity of sage is needed than an unpracticed hand would suppose, but instead of giving the amount of sage salt, red and black pepper she uses, she advises each one to fry and try until it suits those who are to eat it. The tenderloin makes better sausages than the lean of other parts.

Another one says, "Sausage to suit a dyspeptic cannot be made without stuffing. The small entrails of hogs must be well cleaned and scraped until all the fat is removed, turned and soaked in brine twenty-four hours; pour over the prepared meat hot red pepper tea sufficient to moisten the mass, then stuff them and hang in a smoke house and smoke two days only, with cobs or hickory wood."

The main art and secret, this writer says, is to proportion the seasoning so that no one article will predominate. But as to the amount of seasoning, these authorities differ somewhat. A correspondent of the Farmer,—M. A. R., of Fitzwilliam, N. H.,—gave a few years ago the following rule:—To ten pounds of meat put one gill of salt, one gill of sage, and one-half gill of pepper; or if preferred, half the quantity of sage and a half gill of summer savory. L. L. Pierce, East Jaffrey, N. H., gave as a rule for each pound of meat, three teaspoonfuls of fine sage, one and a half of salt, and one of pepper, (three-fourths black, one-fourth cayenne.) Two of the writers very nearly agree in the rule that 30 pounds of meat should have nine ounces of salt and four ounces of pepper, while a third recommends a much larger quantity.

Sausage meat may be preserved by putting it in new cotton cloth bags a foot or so long and two or three inches in diameter, which after filling are dipped in and coated with melted lard. When used the bag may be sliced off with the meat.

CRANBERRIES IN VERMONT.

Is there any kind of cranberry that will prove profitable as far north as the middle of Vermont, if set on the right kind of land? I feel confident we have the right piece of land, if I may judge by what I see in your column of Extracts and Replies, the reading of which I have found useful and instructive. W. B. K.

West Fairlee, Vt., Nov. 13, 1868.

Remarks.—Mr. Eastwood says in his book on Cranberry Culture that "On many of the vast steppes of Russia, the cranberry abounds, and even amid the wastes of Siberia it is occasionally to be met with. Indeed, the Russian cranberries proved for a long time to be no inconsiderable portion of the exports of that country." We should apprehend more difficulty from the difference between the soil of Vermont and of Cape Cod, where the cranberry grows to perfection, than from the difference in climate, especially where the meadow can be flowed at pleasure. Beach sand, or sand somewhat similar to that on the ocean beach, and peat or muck, seem to be the essentials to the success of cranberry cultivation. You will find a valuable article on this subject in last week's Farmer.

CRANBERRIES.

I have a meadow through which a stream flows, and by which it can be flowed. I wish to be informed how the land should be prepared and whether it can be seeded from berries, or is it best to transplant vines? Please answer through the Farmer, which has been of great advantage during the past two years. A Subscriber.

Whitinsville, Mass., Oct. 24, 1868.

Remarks.—Mr. Breed's article in the Farmer of the same date with this letter answers these questions pretty fully. Different meadows are prepared in different ways. Sometimes the whole surface is removed to the depth of a foot or less, affording a large amount of valuable material for the compost heap; sometimes the grass, bushes, &c., are cut, stump, roots, &c., dug out, and the whole burned over in a dry time; sometimes the whole surface is covered with sand, beach sand being the best. Vines are preferred to seed, as the growth from planting or sowing the berry is slow. In October, 1846, Mr. Addison Flint, of Reading, Mass., planted an acre by crushing each berry between the thumb and finger and placing it just under the mud, single berries in a hill three and a half feet apart, and also sowed broadcast a number of bushels of refuse cranberries the following spring. No berries till four years afterwards, and then very small; the next year, of good size and worth picking.

SORE TEATS IN COWS.

I have a good new milch cow that has sore teats soon after she comes in. If you or any of your subscribers can tell me the cause and cure, you will oblige an old subscriber. G. H. K.

Sterling, Mass., Nov. 16, 1868.

Remarks.—Some cows teats are more liable to be sore than others, possibly from a similar cause that some people's hands are more liable to crack and chap than others. There may also be some impurities—humors of the skin or blood—that produce soreness. Mr. H. Rounds, of Chepachet, R. I., recommended in the Farmer, some time since, as a salve for sore teats on cows, one pound of the bitter-sweet or yellow-root, simmered fifteen minutes in half a pound of lard, applied twice a day, after being strained and cooled.

ASHES INJURIOUS TO APPLE TREES.

I noticed in the last Farmer, in "Jack's" reply to "J. J. T.," that he put from one to four quarts of ashes around his trees to keep off mice. Now I will state the result of an experiment in ashing trees. Two years ago last June, I put from one to two quarts of ashes to each of about eighty trees, of different sizes from one to three inches in diameter, to keep away the borer-fly. On examining the trees the next spring, I was surprised to find that about one in eight was killed, and on one-half or more the bark was dead from one-fourth to three-fourths the way around the tree, where the ashes laid against the trunk. I removed the ashes and banked up the trees with earth. Those that were partly killed struck new roots above the dead spots and now they are doing nicely. I would like to hear through the Farmer if others have had their trees injured by putting ashes against them; if so, please reply, as I have some thousand or more that I was intending to ash, but dare not. W. V. Tainter.

South Carthage, Me., Nov. 17, 1868.

STEAMING FODDER FOR CATTLE.

I have an idea of a process for the preparation of fodder for stock which I have not had an opportunity of testing practically, and as I may not have such opportunity at present, I offer it to your readers for what it is worth, as a theory or a mere suggestion which may possibly lead to improvements in the utilization of materials which are now mostly suffered to go to waste.

About 1863, a machine was invented for cottonising flax. It consisted of a strong cylinder, connected at one end with a steam boiler; at the other it was closed by a hinged lid. The cylinder was filled with flax, and steam let on at a high pressure. This was kept up till the bark was heated to the same degree with the steam. The cylinder was then opened, and the sudden removal of the pressure caused the water in the bark to expand into steam with explosive force; tearing the woody fibres apart, and rupturing the cells.

Now my idea is that coarse fodder subjected to such heat would be cooked through, and the cells of the stalks so completely ruptured as to better prepare it for digestion than the finest grinding and subsequent cooking could do, at about the cost of cutting, alone, by steam. It would put the butts of stalks, thistles, straw, and other inferior fodder in the best possible condition for the animal to extract the nutriment therefrom. Grains and roots may be treated in the same way.

"Pop corn" is an illustration of this process. It is well known that the varieties which pop well have a layer of oil next the surface, which confines the water inside till it acquires expansive force enough to burst the kernel.

Grain might be fed in the straw; thus saving threshing and grinding of small grains, the husking, shelling and grinding of corn, and the cutting of roots. Another advantage is, that it would destroy the vitality of weed seeds, and fit them to nourish the animal.

Any one who believes in steaming fodder, and who has a steam engine, with strong boiler, could test my theory at no very great expense. H.

West Addison, Vt., Oct. 7, 1868.

MANAGEMENT OF FAIRS.—ORLEANS CO., VT.

After a brief notice of the Fair of the Orleans, Vt. County Agricultural Society had been printed, we received from our attentive correspondent, an account of the exhibition, with some suggestions upon the management of Fairs, which we think should not be lost.

The Society in this country was organized last year, and devoted only one day to the Fair. It was plainly seen that after the entries were made, the committees had a very short time to examine animals and articles, and award premiums; therefore this year a two days' exhibition was held—the intention being to have all entries made the first day before two o'clock, so that there would be plenty of time for thorough examination by the committees and by spectators. All animals and articles were to be exhibited both days, and although it seemed at first inconvenient to require cows and other cattle to remain all night away from home, it was found that the inconvenience was imaginary rather than real, as good hay was supplied by the Society free of charge.

The track was used for the entertainment of the spectators, and particular hours were set for the grand cavalcade of all horses entered for show, and for the exhibition of each class separately. The classes were stallions of three different ages, matched carriage horses, matched work or farm horses, single drivers, saddle and walking horses. But all this division of time and classes resulted in failure, as when the cavalcade came on the first day at one o'clock, just to amuse the crowd, the various committees on horses went at the work very spiritedly and awarded all the premiums in about an hour, as the horses passed around all together. So it was thought best to have some trots on the second day, and over $100 was given for speed. This, in my opinion, was a mistake in management, for it is just as exciting to see horses trot for a premium as for a purse, and it should be understood that horses must work when on trial for premiums. Is it too much to require a carriage horse to go at the rate of ten miles per hour, a saddle horse the same, and a walking or a work horse to give good evidence of ability? It should be understood that a premium horse is not only ornamental but useful and has bottom as well as style.

As there seemed to be a desire to have all cattle shown at a proper time, out of their stalls and in the cattle rings, a rope was extended around a plot of ground three or four rods in diameter, but the rain prevented its use. It is evident that a committee can judge of the relative merits of animals when standing together better than when quite a distance apart in different sized pens.

By proper management it seems that the interest of the crowd in all kinds of stock can be gratified, and farmers should take pride in their stock as by it comes nearly all their income.

There are in the county, Durham, Devon, Ayrshire, Dutch and Jersey cattle, and it would doubtless be a satisfaction to spectators, as well as for the interest of exhibitors, to have some of their animals so well trained that they could be taken around the track in groups, each breed together.

The 510 entries of our Fair consisted of so good a variety, that the horse stalls, cattle yards, sheep pens, and floral and Mechanics' Hall were well filled.

All exhibitors' names were on the cards attached to the articles. A different course may be advisable in some cases, but in a local Fair, where exhibitors take care of their articles, their names soon become well known, even where it is attempted to withhold them.

Our experience has demonstrated that it is nearly labor lost to appoint awarding committees beforehand, as they do not generally attend and act, and the managers, in practice, are obliged to select men from the crowd.

The receipts and expenses were nearly equal, being about $700. The new Fair ground is a very fine one and prosperity seems before us.

Z. E. JAMESON,
Secretary Orleans Co., Agricultural Society.
Irasburg, Vt., October, 1868.

MERINO AND COTSWOLD CROSS.

"Constant Reader" of Alstead, N. H., asks, Can I make it profitable to use a pure blood Spanish Merino buck with my Cotswold ewes?

I am satisfied he can, but at the present time, when pure bred combing wools are so scarce, it would be much better to use a pure bred Cotswold or Leicester. The wool from these pure breeds is worth from five to ten cents more than the Merino cross, and your lambs and mutton would be worth more. But you ought to raise your lambs at the present time of scarcity of this class of sheep for stock purposrs. Do not alter your ram lambs. Pure bred rams are worth too much. Save your ewe lambs also. They are worth more for stock than the butchers will give. Do not let them have one. At present, your Cotswold ewes are too valuable to be crossed with the Merino. The time may come when it will be a desideratum. Such has been the case, but it is not so now.

Boston, Nov. 21, 1868. MENTOR.

DISPOSITION OF OUR CROPS.

The crops of 1868 have been harvested, and now we are to determine our incomes by the manner in which we consume or otherwise dispose of the raw material we have secured.

The whole secret of success lies in our skill to feed the various kinds of farm stock, for growth, work, milk and meat. With so many different animals to feed, and for such a variety of uses, an amount of knowledge is required that few possess. We, individually, know but very little, just nothing at all. We guess at some things and act accordingly, and succeed only by accident. We do not like to work in the dark as we are compelled to, but desire to know with a degree of certainty the end from the beginning. Therefore, we appeal to you, Mr. Editor, and through you to your correspondents, at this time—the first of the feeding season—for directions to transmute our forage crops into gold,—for that is the end of all labor. Don't give us directions that will result in killing the goose that laid the golden egg.

By way of setting the ball in motion, we would give as our opinion that hogs should be fatted while the weather is warm; that they should be "done" when it is cold enough to freeze in their troughs; that old corn should be used rather than new; that it should be ground *very fine;* that if you would have hogs grow fat as fast as possible, give them raw meal mixed with water or milk, and quite thin, so that they can drink it,—not forgetting the dry comfortable place they need while they are manufacturing your corn into pork. If you give them a wet, cold place, they will use much of your corn to dry and warm it. F.

Mast Yard, N. H., Oct., 1868.

PLANTS FOR A NAME AND DESCRIPTION.

Can you, from the enclosed dried specimen, tell the name and qualities of the plant, and whether the berries are poisonous or not. It is the opinion of some that they are, and I have hesitated to set out the plant in my grounds, although I think it a pretty shrub. There is also a shrub here having bright red berries at the point of junction of the leaf stalks with the branch, which berries stay on until near mid winter. Would the two be safe to set around a house where there are children? Yours, for the dissemination of knowledge and beauty, WM. MCALWYN.

Sandwich, Mass., Oct. 19, 1868.

REMARKS.—Mr. Joseph Breck, to whom your note and the specimen received were submitted, has kindly furnished the following reply:—

The specimen of the plant sent is so broken up that it is almost impossible to recognize it. I think it is MESPILUS CANADENSIS; synonym: PYRUS OVALIS, or *Swamp Pyrus*, which is a shrub of moderate size, very common in swamps, and conspicuous for its white flowers in the early part of May. Fruit dark blue, of the size of Whortleberries; ripe in June. It is not poisonous, and is a desirable plant for the garden among other shrubbery. Plants to be recognized should be sent when in bloom, with leaves on a small branch or twig. The other shrub mentioned by your correspondent producing red berries in the axil of the leaves is without doubt *Prinos Verticillatus*, or *Black Alder*, which is a great ornament to our swamps and low ground at this season of the year. You will find a full description of it in *Breck's Book of Flowers*, page 416. In modern times, this plant has been transferred from the genus *Prinos* to *Ilex*.

Yours, &c., J. BRECK.

The following is the description alluded to in "Breck's Book of Flowers," an excellent work of 480 pages, price $1.75, which ought to be accessible to every cultivator of flowers, and should be in every town and neighborhood library:—

ILEX VERTICILLATA.—(*Prinos Verticillatus*)—Black Alder.—This indigenous shrub, so ornamental in low grounds and swamps in autumn, is worthy of a place in every collection of shrubs. "It is a handsome shrub, five or six—rarely ten or twelve—feet high, with crowded branches and leaves, conspicuous for its bunches of axillary blossoms and scarlet berries, remaining late in the autumn, or even into the winter. The recent shoots are clothed with an apple-green bark, which, on the large branches, turns to a pearly gray, and, on the older stems, is of a polished and clouded dark color, whence the plant derives its common name." The flowers are white, and not very ornamental. The berries are of a bright scarlet, covering the twigs, the size of peas, in bunches of two or three, and remain long on the bush. The flowers expand in June; the berries are ripe in September. The Black Alder will require a peaty, moist soil.

APPLE TREES ON AN OLD ORCHARD.

I have two acres of land all walled and in a good location for an orchard, but it has been used for that purpose. The trees are now dead or nearly so, and what I want to know is whether a new orchard in the same place will do as well as in a new one, provided I take the old stumps out and manure it well. JOHN BATCHELDER, JR.

Laconia, N. H., Oct. 19, 1868.

REMARKS.—We do not suppose that apple or other trees will do as well to follow those of the same kind, as they would in a different location. Nature teaches us thus much by her well known system of rotation, by which a different kind of tree usually succeeds those which have grown to maturity on any particular lot of land. Mr. Cole compares a tree to a tethered horse. No one would expect a horse to do as well where another horse had starved to death, as he would on a new spot. Still with hay and provender enough a horse will flourish almost anywhere; and with similar care, trees may be made to grow in soil impoverished by the same kind of trees. If our correspondent will make a compost of a large proportion of muck, good soil, sods, woods mould and leaves, some ashes and just enough "agricultural yeast" or manure to leaven the whole lump, he can make apple trees grow on the site of an old orchard.

THE FALL WEB-WORM, OR CATERPILLAR.

In your remarks following the queries of your correspondent Jack, in the Monthly FARMER for September, page 435, you describe exactly a worm that has been quite numerous about here this fall. I find no better way to get rid of them than to pull them off with the hands and tread on them, or burn them where they are very numerous. I have destroyed them by the bushel, but of what use is it, when my neighbors on either side regard them with perfect indifference, until their orchards look as though a fire had run through them? If such things are not nuisances, what are? I move our legislature pass a law requiring people who *will* keep caterpillars to pay a license, the same as for keeping dogs. J. W. G.

Cummington, Mass., Oct. 28, 1868.

REMARKS.—The old objection to agricultural papers that they were filled with the writings of "Fancy Farmers" and "Big Bugs" generally, is one for which practical farmers themselves were responsible, because a few years ago the editors could induce nobody else to write. Farmers are now outgrowing this false modesty, and agricultural papers are improving in value as fast as practical men are acquiring the habit of communicating not only the facts of their experience, but the thoughts and suggestions which occur to their minds while working and reading. In a note to the above communication the writer says, "I never did such a thing before, and can't say as I ever want to again, and shall not be surprised if it goes into the waste basket." An ancient writer in a very sensible letter addressed to certain friends in the city of Rome, said, "Let every one of us please his neighbor for his good to edification." Now, friend "J. W. G.," when assured that the twenty thousand readers of the NEW ENGLAND FARMER want you to please them to edification, have you the right to consult your own pleasure, merely?

A BED OF MARL.

On visiting a neighboring town recently, where the land needs enriching very much, I found an extensive bed of marl, composed of, or filled with, minute shells. Would it make a good dressing for the land, or would it pay better to burn it and thus convert it into lime, and then apply it?

Roxbury, Vt., Nov. 2, 1868. W. I. SIMONDS.

REMARKS.—The term marl, like the term muck, is applied to deposits of very different composition. Some beds of muck and some beds of marl are much richer in fertilizing matter than others. We know of no better mode of ascertaining their value than by careful experiments on the land. It is said that the value of marls depend on the carbonate and phosphate of lime, alkaline salts, gypsum, &c., which they contain. It may be well to burn your marl, as proposed, but we should advise a thorough trial, without burning, in connection with other manures. Will those who have used marl similar to that described by our correspondent give him the result of their experience? We understand that our Northern marls are quite different from the green sand of New Jersey, which is often called marl.

CREEPERS AGAIN.

In view of the hint you so *good-naturedly* give Messrs. Goodwin and Crosby in your issue of November 7, I will commence by saying I have no fowls for sale, and never raise them for sale, but I have had some experience with the Creepers. Several years ago, during the rage of the hen fever, my utter disgust with the workings of that disease, and with the long legged creatures it introduced, led me to look about for the old fashioned Creepers. They had been so completely thrown in the shade, that it took a long time to find them. At length I succeeded in purchasing a young rooster. I crossed him with the Black Poland, the Bolton Gray and the Seabright, all of which produced valuable fowls.

I consider the Seabright cross the most valuable fowl I have ever known. They are very beautiful pets, being very tame and docile. They never scratch and do no harm in any garden, but are the most industrious bug hunters in the world. They are constant layers; only one in six having offered to set during the past year. They lay large eggs for the size of the bird. They are the best of mothers, never wandering from home with their chicks, and never trailing them through wet grass. In fact, they cannot be induced to enter standing grass at any time, but have great sport in the grasshopper line as soon as it is cut. The cost of keeping them is next to nothing. The crumbs from even a poor man's table will feed quite a flock. They fatten easily, and when fattened are very plump and handsome, and their flesh has an excellent flavor. I believe the creepers are among the best of our native breeds, and I believe our native breeds as good as any breed we have when properly crossed. D. L. TOLMAN.

Marlboro' Depot, N. H., Nov. 7, 1868.

IRON PIPE WELLS.

Will you please inform me through the FARMER where I can purchase a pump, where by boring the ground you can pump water. S. F. A.

Bellows Falls, Vt., Nov. 3, 1868.

REMARKS.—Our impression of this way of obtaining water is not very favorable. An iron tube or pipe, with a sharp point, and perforated near the lower end with holes to admit the water, is forced into the ground by pounding upon the upper end, to which additional joints are screwed on, as the pipe sinks, until water is reached, when an ordinary pump is attached by which the water is raised. Sometimes a fountain is reached which forces the water up to or near the surface. Parties who profess to understand the business have travelled about, in this section, for a year or two past, boring for water in this way, and we have seen several "wells" of this kind in operation, and have known of several failures. We do not know where the necessary fixtures can be obtained, and we doubt whether it would be advisable for one not acquainted with the process to undertake the job.

SCRATCHES IN HORSES.

I have a valuable horse so badly affected with the Grease as to be wholly unfit for use, and I appeal to the FARMER for a remedy. If you or any of your subscribers can give the desired information they will confer a great favor. R. P. T.

Canaan, Vt., Nov. 1, 1868.

REMARKS.—The first thing is to wash the parts affected perfectly clean with soap and water. This is so important that we have known people to advise walking the horse in a stream of water as a cure. The bowels should be kept open by laxative food or some mild medicine. A wash of beef or pork brine is often beneficial in the first stages. In worse cases, a wash of one ounce of chloride of zinc, four ounces of creosote, in four quarts of a strong solution of white oak bark; or an ointment of gunpowder mixed with lard or fresh butter; or an ointment of half a pint of linseed oil, two table spoonfuls of fine salt, same of sulphur, same of saltpetre, and one ounce of turpentine, well simmered together.

TEMPERATURE OF CREAM FOR CHURNING.

Can you inform me through the columns of the FARMER what temperature is the best for cream while churning, and oblige a SUBSCRIBER.

Fisherville, N. H., Oct. 21, 1868.

REMARKS.—In our own practice we have adopted 62° as the proper temperature. During the winter reason our milk and cream is kept in a cellar where the temperature is uniformly about 62°. In the statement addressed to the Committee on the Dairy of the Norfolk County, Mass., Agricultural Society, which accompanied the butter which took the first premium, and which we published in the Weekly Farmer of October 10, Monthly, page 522, Mr. Cheever says that his "churning is always done with cream at a *known* temperature, varying from 60 to 64°, according to the outside temperature." Others prefer a rather lower temperature, say 55 to 60°.

PROTECTING TREES FROM MICE.

As I have five hundred trees to protect from mice the coming winter, I am interested in the inquiry of "J. J. T." for an effectual wash for this purpose. But as no one responds, I will give him my method, which I shall practice till I hear of a better one. I put around the trunk of the tree from one to four quarts of common wood ashes as late as I can before winter sets in. Besides keeping away mice, the ashes promotes the growth of the trees the following season. Jack.

West Chesterville, Me., Oct. 29, 1868.

Remarks.—Those who have not ashes, may feel safe with a somewhat larger quantity of earth or sand, of which a cart-body full will answer for a large number of trees.

FELTED WOOL ON SHEEP.

I wish to ask you or some of your readers, what causes wool to felt on sheep. Is it caused by their not receiving proper care during the winter? Please give us the cause and the remedy and oblige yours. Jack.

Jay, Me., Oct. 29, 1868.

Remarks.—Probably our correspondent overlooked the reply in the Farmer of August 15, of Mr. Z. E. Jameson, of Irasburg, Vt., to a similar inquiry. He said it was generally owing to the want of oil or yolk in the wool caused by sickness or poor feed, and sometimes by the yolk being removed by a drenching rain or a thorough washing, &c. We refer you to the whole article alluded to.

THE SEASON AND CROPS IN WASHINGTON CO., VT.

Our hay crop matured first and was more than an average, and hay is plenty at ten dollars per ton. Oats were generally light. What wheat was sown generally gave a good yield of excellent quality. Rye very light. Corn matured very early, and though, on account of wet weather, it was not all planted till the first of June, we have a splendid crop. Potatoes are good and a heavy yield, almost entirely free from rot. Most branches of farming, with the exception of sheep raising and wool growing, have been very successful, and now we are making preparations for stern winter again. The other day I gathered forest leaves for bedding, and I think if my brother farmers could see the pile myself and hired man have stored, many of them would go and do likewise, provided the storm that is now falling dries off before winter sets in. They are easily gathered, as one needs only a common manure fork and a wagon, which if not large enough, may be extended by putting on extra side and end boards. The storm that commenced Saturday night continued without intermission till Sunday night, and this morning the ground is covered with snow.

Roxbury, Vt., Nov. 2, 1868. W. I. Simonds.

AGRICULTURAL ITEMS.

—It is said that 39,440 seeds of weeds, by actual count, have been found in a pint of clover seed.

—For what reason does a duck go under the water? For *divers* reasons. For what reason does he come out? For *sundry* reasons.

—It is now claimed that large orchards breed insects and diseases after the manner of large cities, and that the remedy is small farms and small orchards.

—Every farmer should have a compost heap. Collect every kind of fertilizer, and to prevent any from liberating the gases, keep the whole covered with earth or muck.

—Mr. Noah Paine, of Chelsea, Vt., has a heifer that was two years old on the twelfth day of September last. On the first of July last, she calved, and before that time she had given six hundred and five quarts of milk.

—The first premium of $50, offered by the Strafford county, N. H., Fair for the best cultivated farm in the county, has been awarded to J. Frank Lawrence, Esq., of Lee. Mr. C. W. Rollins, of Rollinsford, received the second premium of $25.

—Noah Whipple, Jr., says in the *Boston Cultivator*, that warts on cows' teats may be readily removed by washing frequently with alum water made by dissolving two ounces of alum in a pint of soft water.

—The ponies or horses peculiar to China are used only for riding, and by mandarins when upon official business. All agricultural work, ploughing, irrigating, and the working of rice mills, is done by the buffalo.

—The *California Farmer* says that a single firm in the wine making business own and hire vineyards containing 700,000 vines. Another firm expects to manufacture half a million gallons of wine.

—Luscious pears, grapes, figs, peaches, melons plums, strawberries, lemons, limes, &c., were among the fruits mentioned as in great abundance in the San Francisco market October 15. Pears three to six cents per lb., peaches five to twelve cents, grapes four to ten cents per lb. for natives.

—The *Journal of Chemistry* says that two or three drops of carbolic acid to a bottle of ink will prevent mouldiness; and about thirty drops added to a pint of water used for making paste will prevent its moulding. Carbolic acid, however, is a poison and should be used with care. It is very destructive to the lower orders of vegetable and animal life.

—The California *Farmer* of October 15, says: The grain market remains very inactive; no foreign demand, and nominally no export demand. Those who think the market will advance should go into the country and see the warehouses, full to their utmost capacity, and see the great quantities in the fields, and on the wharves at the landings there, and upon the wharves here, and remember also that there has been already 150,000 tons sold.

—After having tried several other prescriptions for removing warts from a horse, and having offered five dollars for a cure, Mr. S. N. Tabor, of East Vassalboro', informs the *Maine Farmer* that he has been entirely successful, by dosing the animal with chopped cedar boughs, given in his grain, also washing the warts in a strong decoction of cedar.

—The *Canada Farmer* mentions a horse owned by M. Yoder, of Springfield, Ontario, which is believed to be over thirty years old and is still fat, plump and handsome. Twenty-five years ago he was a dashing roadster. The *Farmer* suggests the propriety of having prizes at Agricultural Fairs for the best old horses, as, while any one may have a good colt, it is only a good, kind horseman that can show a sound, active old horse.

—The *Turf, Field and Farm*, the organ of the Fast-horse men, calls for a national convention of horsemen, to correct the "growing evils" of the trotting turf. It says "the case is a bad one, the disease is eating into the vitals, and the remedy to be effectual must be national as well as prompt. Another year of trickery and fraud, like the one over which the autumnal leaves are dropping, will check the tide,—turn the current in a different direction."

—We learn by the *Country Gentleman* that Mr. Warren Percival, Vassalboro, Me., has recently sold the following Short-horns: Sheridan, bull calf, sired by Gen. Smith, 5711, out of Kitty, to Silas Hawes, of Union, Maine; to A. C. Chandler, of New Gloucester, Me., cow May Day 6th, by Duke of Manlius, out of May Day—also bull calf Roan Star, by Monarch, 5964, out of Perfection, and heifer calf Red Lady 2d, by Gen. Smith, 5711, out of Red Lady.

—A Florida paper, the *Gainesville Era*, says: "During a recent ride of five miles through a section of the country once famous for the abundance of live stock, we counted only twelve head of horned cattle, four hogs, and not a single sheep. The diminution in their numbers is alarmingly rapid, and a very few years will witness their almost entire disappearance. Beef must continue to increase in value, and will soon reach Charleston and Savannah prices.

—A correspondent of the *Country Gentleman* furnishes the following as a partial list of Fish Breeding establishments. In New York, Mr. Seth Green, Mumford; Stephen H. Ainsworth, West Bloomfield; Mr. William Nicoll, Islip; Mr. Aaron S. Vail, Smithtown. In New Jersey, Dr. J. H. Slack, Bloomsbury. In New Hampshire, Mr. Livingston Stone, Charlestown. In New Brunswick, one—connected with the one at Charlestown, N. H.

For the New England Farmer.

RECIPROCITY, AND COMBING WOOLS.

Having read your remarks on the reprocity treaty, and also those by Dr. Randall, and having had some experience in wool, I may, perhaps, be able to throw a little light on this subject; believing, as I do, that should the reprocity treaty take effect to-morrow, and should wool from Canada be brought in free of duty, it would not affect the price of combing wools of this market.

At the same time I do not recognize any duty on the part of the United States to legislate for the relief of the British Provinces, by giving them access to our markets. If they really desire the benefit of our markets, and if the British goverment desire that they should have these benefits, let them become annexed to the United States; and then, being one of us, they would have an equal right to all the benefits belonging to the seveal States of this Union. But so long as they remain a part of the British Empire, I do not see what we have to do with their distresses, only so far as they may appeal to our individual benevolence.

Establish the reciprocity treaty, and so far as wool is concerned, it would be equal to annexing the Canadas, inasmuch as both the States and Canadas do not produce an amount sufficient to supply the wants of our manufacturers. At the present time, Mr. Walworth, the wool buyer for the Pacific mills, and Mr. Moffit, buyer for the Atlantic Delaine Company of Providence, are in England making purchases. So long as England is the principal long-wool producing country in the world, and the only country, apart from Canada, that would compete with our farmers in its production, the price of combing wool in this country will be the price at which it is sold in England,—duties and expenses added; and so long as Canada is the only favored country allowed to have free access to our markets, in which to sell its wool, the Canadian farmer will be just as much protected by our tariff as our own farmers are.

I am opposed to the renewal of the reciprocity treaty, not because I think the wool-growing interest of this country will suffer, or that the production of combing wools in this country will be retarded by it, but because the Canadian farmer pays the duty now, and should the treaty be renewed he would pocket it.

In 1865 and 1866, under the reciprocity treaty, combing wool was not in any more demand than now, yet Canada wool was worth from ten to twenty cents per pound more than it is at the present time. This year, the Canadian farmer received from twenty-three to twenty-five cents per pound, gold, for his wool; then, he received from forty to forty-five cents, gold, and the value of gold then was but little higher than now. I am acquainted with a person who not a year ago bought

50,000 pounds of Canadian wool in New York, which had been brought in under the reciprocity treaty, and for which eighty-five cents had been offered and refused. It was purchased for sixty-seven and a half cents per pound last March.

I hope I have succeeded in making myself understood on this point; that although the importer of the Canada wool ostensibly pays the duty, yet really the Canadian pays it, because he sells his wool for less. Our own farmers will receive no loss so long as the production of both Canada and the States keeps below the consumption.

There is a lamb and mutton question involved in this matter, upon which subject I intend some day to say more. MENTOR.

Boston, Nov. 16, 1868.

For the New England Farmer.

SUMMER CARE OF SHEEP.

In your issue of Nov. 13, I notice an article by "Zen" of Milton, Me., entitled "Roving habits of coarse and fine wool sheep," in which I think he does the fine wools, if he means the Merinos, a great injustice.

My experience has been quite the reverse of his, for I have invariably found the Merino a very quiet breed, and it is very rare for one of my flock to leave my pasture.

My custom is to have the fence around my pasture in good condition before the sheep are turned into it in the spring, and kept so through the season. My sheep are visited, called together, counted, and furnished with a little salt by myself or some trusty person twice each week till they are sheared, and after that time once a week, through the season.

In this way they are kept domesticated, and will come a considerable distance to meet the shepherd at the sound of his voice, when he calls them.

It is natural, I believe, for all sheep to ramble over their whole enclosure nearly every day; and if they are turned to pasture with dilapidated fences, they would be very likely to mistake another pasture or field for their own; and then if the boys and dogs were set after them they would be likely to run for their lives, and if compelled to jump they would do so, and in that way would soon learn the art, and would most likely practice it voluntarily and become a nuisance to the whole neighborhood.

I have not had any experience in keeping coarse wool sheep, and there are but few kept in town; but these few have been an annoyance to myself and many other farmers. Their roving habits are such that they have rambled over several farms; and it is the opinion of many that they have done more damage during the season than they were worth in the spring.

They do not confine themselves to each other's company, like the Merino, but scatter about in small squads, or perhaps one sheep and her lamb will ramble off together, and be found a long distance from the pasture where she was put. If their owner was made to pay promptly for all the damage they have done, I think he would not be likely to invest in a similar flock again.

These sheep may not be a fair sample of the long wools, and I certainly hope they are not; and I have reported them only as an off-set to the troublesome Merinos of "Zen."

I have no doubt that most breeds of sheep may be so domesticated by kind treatment as to be easily kept within their proper enclosure, but in order to do so let no one attempt to keep more than he has plenty of feed for with good fences and no dogs.

L. D. CORLISS.

Orford, N. H., Nov. 16, 1868.

CAN WE GROW WHEAT?

That it is possible to raise wheat, and still not destroy the ability of the soil to produce it for the next generation; that it is practicable to go on improving it in fertility, while we biennially take from it a crop of this most desired cereal, no one who has read the progress of improved agriculture in England, will think to doubt. The truth is, we have settled down into the idea that it is best to crop our land with wheat till it fails to return the seed we sow, and then to follow the setting sun to the land of the Indian and buffalo. By tilling the soil, we mean killing the soil; and when the wreck is accomplished, we heartlessly seek out another spot which shall share the fate of our last victim.

Is agriculture as applied to wheat-raising, a lost art, or is it that our American farmers have not yet found it out? We believe the latter. We are inclined to think if no virgin plains had laid west of the Alleghanies, that wheat would still be raised between them and the sea. Good farming comes of necessity. Agriculture, like any other art, must be studied, written about, and talked over. We must bring all the appliances of science to our aid, and put ourselves in the way to profit by the experience of those who have achieved a success in the branch we have been attending to.

Now few of these things have been done in this country in respect to wheat. We have had conventions of sorghum growers, fruit growers, wool growers, grape growers, and of poultry fanciers; but when have we had a convention of wheat growers on American soil? Nearly every other department of agriculture, as well as horticulture, has an organ devoted to its interest; but with the exception of a stray article which occasionally appears in the statistical pages of the Department of Agriculture, or a chance column in some of our farming papers, nothing is written on the culture of the grain that forms "the staff of life." More printer's ink is wasted on some black cap raspberry, or some new fangled strawberry, than is used in all the wheat discussions for a decade. In short, if it were not for the bag of wheat which we sometimess see tucked away in some back corner of the Floral Hall at our County Fairs, and the occasional newspaper article referred to, we should almost think that the subject of wheat raising was becoming ignored altogether.—*Prairie Farmer.*

REMARKS.—This is putting it pretty strong for a paper printed in the "Grain Emporium of the World," which Chicago is sometimes claimed to be. But is our agricultural literature as deficient as the pen of this ready writer charges? We have on our shelves a stately volume of 432 pages entitled the American Wheat Culturist, by S. E. Todd, devoted exclusively "to the grain that forms 'the staff of life;'" Mr. Klippart, Secretary of the Ohio Board of Agriculture, has also written a volume on this neglected plant, and in many agricultural books and papers, no inconsiderable space is devoted to the cultivation of wheat. On referring to the Monthly NEW ENGLAND FARMER for 1867 we find the index points to thirty-seven pages for articles on wheat, and we presume that it is incidentally alluded to in many other places in connection with other subjects, and probably about the same prominence has been given to the subject in our columns during the year now drawing to a close. We agree with the *Prairie Farmer* man that the growing of wheat ought to be "studied, written about, and talked over" more than it has been, and we invite all New England farmers who have succeeded in raising wheat without "killing the soil," to speak out, and help us talk over the subject. The success that has attended the cultivation of wheat in New England during the few past years has been sufficiently encouraging to justify the assertion that wheat raising is not "a lost art" even among the farmers "between the Alleghanies and the sea."

WALKING HORSES.

The best gait a horse ever had for everyday use, is a good walk. It is a gait that not one in ten possess. Colts are not trained to walk in all of the Eastern States. Young America wants more speed. Kentucky has more good walking horses than any other State, for there horseback travelling has long been in fashion for men and women, over a country where muddy roads at times rendered any other gait impossible, and so horses have been bred for the saddle and trained to a walking gait. This is also the case in all the Western States, and perhaps might have been so in New England when our grandmothers rode to meeting on a pillion behind our grandfathers. But one-horse wagons have put horseback riding out of fashion, and now a good walking horse is more rare than one that can trot a mile in 2.40.

At the Springfield, Mass., Horse Show of 1860, the writer was one of the committee to award prizes to the best walking horses. Out of seventeen entered, the committee found but one which was considered a first-rate walker. This was a Morrill mare, which walked five miles an hour with ease. Two others were fair walkers, and the rest knew no gait that could be called walking. At the New York State Fair the same state of facts was again developed. A letter from Wisconsin says: "I think horses trained to walk fast would be a greater benefit to our farmers in general than fast trotters, as almost all their work has to be done with a walk." I once knew a man in Massachusetts, who, before the railroads were built, kept from two to four teams at work on the road, and never allowed them to trot at all, and made the distance in quicker time than his neighbors, who made their horses trot at every convenient place. He said that when a horse commenced to walk after a trot he walked much slower than his common gait if kept on a walk, and thereby lost more than he gained. Will farmers think of this and pay more attention to walking horses?—*Farmer's Home Journal.*

"GRAIN-KILLED" HORSES.

Some years ago a man lived in this vicinity who had kept livery stables both in New York and Philadelphia, and he owned one of the poorest grass farms you would wish to see, but well watered. He would buy horses in those cities from gentlemen that kept but one horse,—horses that had had a good deal of work on the road as family horses, and were fed very highly of grain, and had been in the city some four, six or more years, and were what horsemen called grain-killed. He would bring them up generally in the spring, and let them run at pasture, and I have seen from six to ten horses in a field for weeks together, where you could not see a green thing, unless some weed or brier that the horses would not eat. He would keep them just alive for eight, twelve or more months, as the case might be, but at least eight months, and put them in the stable about Feb. 15th or March 1st, having let them run in the barn-yard after snow came, but housed from storms. He would begin feeding a few carrots at first, and then add grain after being ground, but never feeding very highly, and in a few weeks the horses would look full, with smooth coats and well filled between the ribs, and in May or June he would take them back to the city and sell them as horses just from the country,—the old owners often buying the horse they sold, because the horse *could not* eat grain enough to look as fine and soft coated as he did when he returned to the city, when at pasture or in the yard. At this farm the horse was kept just alive, but had little or no work. I tried it on one or more horses I have owned, and found it very beneficial, especially to horses that were over ten years of age. I think that eight quarts of grain given to a horse, after some six months of this treatment, will have a better effect on the looks of the hair and feelings or life of the horse, than twelve or fourteen quarts did before; remember, I speak from facts. You look at coach horses, in your city, which you know have been there six or eight years, with a good deal of work, and the coachman allowed to feed all the grain he chooses, and also as little hay, and see if I am not sustained in what I write.

Grain-killed horses are always gaunt between the ribs; the hair stares and looks dead, and the flesh feels hard and dry; the horse is dull and stupid—not playful, and looks sleepy about the eyes. Treat him as I say, and, my word for it, in a few months he will be his old self, playful at the halter, prompt to the bit, and look sleek. To give less grain, more damp hay or green food, carrots, potatoes or something of that kind in moderation is my advice and practice.—*James Thompson, Rose Hill, in Country Gentleman.*

WINTERING BEES.

Mr. P. Lattner of Dubuque Co., Iowa, writes to the *American Bee Journal* as follows:—

I have seen a great many plans in the *Bee Journal* for wintering bees, but I prefer the one I adopted last winter to any that has been suggested. Out of seventy-six hives wintered (among them some pretty weak colonies) I did not lose one. Whereas, winter before last, out of sixty-eight hives wintered on their summer stands, I lost thirty-eight, and the remaining thirty were weak. I came to the conclusion that what is good to keep ice in summer is good to keep bees in winter; and I went to work and built an ice house, 16 feet by 20, and 7 feet high. I used six-inch studding siding on the outside, and lined with inch boards inside; put a tight floor overhead, and then filled all around with sawdust. I also put six inches of sawdust above, on the floor. I had in each corner a four-inch opening, or chimney, through the floor, but not through the roof; and a double door in front, which kept the room perfectly dark. We had pretty cold weather last winter, yet water would not freeze in that room. Towards spring, it was getting rather warm inside, and I noticed that some colonies were becoming uneasy. I then left the doors open after dark and shut them again before daylight—which operation made all quiet.

I can winter a hundred colonies in that room, and it did not cost over forty dollars to build it.

My bees commenced swarming the first week in June, though one swarm issued on the 28th of May. I only let them swarm once. Six or seven days after swarming I would cut out all the queen cells, and insert one Italian in place of black ones. I have now one hundred and thirty-five colonies; and, I think, when I put them in winter quarters, I shall have Italianized every one of them.

I use the Langstroth hive, and prefer it to any other form. Any one must acknowledge that the frames are easier handled than in any other hive—besides the grand place for surplus honey, which no other hive can equal.

As for wintering bees out of doors, I do not believe in it any more. We must provide shelter for all our stock in the winter; why can we not afford to do the same for our bees?

My bees are doing well, and some of the first swarms have filled six boxes of honey. Those with frames on the top have done still better. I believe bees will store double the quantity of honey in frames, as compared with boxes.

BOARDS AND NAILS FOR FODDER.

Farmers are sometimes annoyed by their cattle gnawing boards, bones, &c. We do not propose to grind up "boards and nails for fodder" and give it to animals with such a perverted taste. We were thinking merely of how much fodder might be saved in many barns by a dose of boards and nails administered, not to the cattle, but to the barn in which cows and other animals are kept. Not long since, while looking over the premises of a neat and thoughtful farmer, and admiring his warm stable, pig-pen, and shed for manure, he remarked "that little funny article in your paper, about boards saving hay, written by somebody [Rufus Nutting, Esq.,] in Randolph, Vt., was worth a year's subscription to me. It is strange," he continued "that so few farmers in this cold country provide a warm place for their stock." Those who read Mr. N.'s article will remember that he estimated that in many cases two dollars worth of boards and nails might save in expense of fodder, and by the increase of the milk of say five cows, fifty dollars in one hundred winter days. After the ends and back side of the stable are made sufficiently tight, he recommended that a few boards be hinged on in front, so that in severe weather the stable may be entirely enclosed, or left open when the weather is milder.

For closing crevices in underpinning, &c., the *Prairie Farmer* recommends a mortar of lime and sand or ashes, using hogs bristles instead of plastering hair, to give it greater tenacity, and fill this into the cracks with a trowel. But in this as in other things, where there is a will there is a way, and those who believe that fodder can be saved and health promoted by shelter and warmth, will find little trouble in securing them, by stopping the cracks and shutting out the cold so that manure will not freeze where the cattle lie.

THE CALVES.

There is no part of the farm stock more liable to be neglected in fall than the calves which have been raised during the summer. They are often left out late in the season, without shelter, to pick at the frozen grass, and by the time cold weather sets in, are reduced in flesh and cannot be wintered without extra nursing, and even then one or more are often lost before the time for turning to grass.

Calves should enter upon cold weather in good condition and with vigorous health. Shelter and an abundance of nutritious food should be provided so soon as grass becomes frost-bitten and poor, and cold storms of sleet and rain begin to be frequent. They demand the finest and best hay grown on the farm, and should have in addition a little oil meal, bran or oats. Roots will be found an excellent feed for calves during the winter, in addition to the oil meal above mentioned. Some prefer oats, say a pint or a little more per day to each animal. We have seen calves wintered through in fine condition upon hay and oats as above, but we prefer a mixture of oil meal and bran, and if it can be had, a daily feed of turnips or carrots.

Calves that are well cared for, that have warm shelter and that get a sufficiency of nutritious food, not over fed, continue their growth during the winter, and will usually come in milk when two years old, which is a matter of some importance to the dairyman. In our experience in raising stock we find by far the most important period to give close attention to the animal is during its first year. Neglect during that time is almost always attended with loss. A poor, runty calf, poorly wintered cannot be expected to be in milk the next year, and at three years old is no better for the pail than the two years old that has had generous treatment and care from its birth —yet the former has cost considerable more than the latter. Many farmers make no estimate of the cost of raising stock, and hence do not properly appreciate the difference between heifers coming in milk when two and three years old.

Some object to putting calves in stanchions, preferring to let them run loose in the stable. We have never seen any ill effect from stanchioning calves, but, on the contrary, believe there are many advantages from this mode of management. Less room is occupied when they are thus confined, and they with their stable are kept cleaner than when allowed to run loose. They are more easily fed, especially when any extra food is given, and each one gets its share and is not driven about by master or stronger animals. By giving them a run in the yard every day they get sufficient exercise, while the early breaking to the stanchion and the handling daily renders them more docile and more easily managed as they grow older and come in milk.—*Utica Herald.*

THE EMPIRE MILK-COOLER.

The *Utica Herald* gives the following description of a little article which was exhibited at the Herkimer county, N. Y., Fair this fall, for the purpose of cooling milk.

The milk as it is poured into it, passes in a thin circular sheet, about the thickness of wrapping paper, for a distance of about three feet, between two thin metallic surfaces, over which cold water is constantly passing. By this means the animal heat is entirely removed, and the milk reduced, gradually but immediately, to any degree of temperature desired. A thermometer being attached to the machine, having its bulb immersed in the cooled milk, enables the operator to watch and control the process. The milk after being cooled is collected together and passed out through a tube, to which a faucet is attached, into a pail or can. It is claimed for this little affair, which a child can carry in his hand, that it will cool milk as fast as four or five men can milk. Gardner B. Weeks, the Secretary of the American Dairymen's Association, has examined it, and recommends it for general use "in private dairies, as well adapted to put the milk in admirable condition for sending to the cheese factory or market." The machine can be readily taken apart and cleaned, with the greatest facility.

AYRSHIRES IN VERMONT.—Several farmers at Milton, Vt., one of whom is Mr. J. B. Robinson, have united in the purchase of eight or ten head of Ayrshire cattle, for the improvement of their stock, and that of the neighborhood. One of them is the bull Commodore, purchased from C. Baxter, Burlington, Vt., a descendant from Sir Wm. Logan's importations. Eight cows and calves were bought of J. P. & T. A. Dawes, Lachine, near Montreal, from stock imported by the Montreal and other agricultural societies and by the late Mr. Dods.—*Co. Gent.*

COTSWOLD SHEEP.

In connection with the above comfortable looking group of Cotswold lambs raised by Charles Corliss of Haverhill, Essex County, Mass., and sold by him with his whole flock, some two years ago, we published a portion of a report made by Thomas Whittaker, as Chairman of the Worcester County Committee on Sheep. It was published in the Report of the Secretary of the Massachusetts Board of Agriculture for 1866. After alluding to the greatly increased demand for combing wools, both in this country and England the committee say:—

"The raising of this kind of wool involves two other very important points, the production of mutton and lambs, which, at the present time of scarcity of live stock, are of vital importance to the whole community; and it is the combination of these three points, wool, mutton and lambs, which has rendered sheep husbandry so profitable to the English farmer, and has given him the exclusive privilege of furnishing this class of wool for the world, and the English manufacturer the exclusive privilege of producing imitation Alpacca dresses for the ladies of the world. That it can be made equally as remunerative in this country we have no doubt, as the testimony of those farmers who have made the trial abundantly proves.

"A member of your committee, who keeps this class of sheep, says that he has received the present year, for his lambs when three and four months old, $6 each, and the fleeces from his ewes averaged him $3 each.

"Mr. G. Calvin Rice furnishes your committee with the following account of the produce from his flock of Cotswold and Leicesters: Of seven lambs, dropped between the 22d of January and the 8th of February, 1865, he sold to the butcher, on the 15th of May, four for $42.75; three he sold for stock for $22; five which were dropped later he sold about the middle of July for $24.24—these were the produce of nine ewes; he sold 70½ pounds of wool from twelve sheep, at 40 cts. per pound, unwashed, $28 20; total, $118.19. A pair of lambs from one ewe sold for $17.72; the wool sold for $2.30, making a total of $20 from one ewe.

"The breeds of sheep which your committee would recommend for the farmers of Worcester County to keep, and which to them would be the most remunerative, and are best adapted to meet the wants of the country at the present time, are the Leicesters or Cotswolds and their crosses, the Teeswater or the Lincolnshires, the Leicester and Southdown crosses. The brighter the wool the more valuable it is, being so much the better adapted to produce imitation Alpaccas and Mohair braids.

"It will be in vain that we plead as an excuse that soil and climate are not favorable for the production of such sheep. What advantage has Canada, in either soil or climate, over this country? We know of none, and yet Canada succeeds. The British farmer, upon high-priced lands, succeeds because he has a market for mutton and lambs, and he makes every effort to supply that market. And in his effort to supply it with good mutton he furnishes the best of wool. This is produced from the hoggets and wethers, when well fed. The object of the English farmer is to get these ready for the butcher at as early an age as possible, and as the best of food produces this result, so also the best feed produces the most and best of wool.

"The farmers of Worcester County, and almost every other location in Massachusetts, have as good a market for mutton as the English farmer has, and can raise as good wool as they choose. It is not the pastures which are deficient, as some maintain, which causes the farmer to fail in the treatment of this class of sheep, but it is the want of proper care and feed in winter. Whenever a sheep is allowed to lose condition there is a serious defect in the wool; hence the reason why sheep, when once fat, should never be allowed to grow poor, but whether ewes or wethers when once fat should be sold to the butcher.

"The increase in our woollen manufactories requires an increased production of the pure-bred Merino, and when there is no market for mutton it is the wool-producing sheep, and our vast prairies should be pastured by the sheep in place of the deer and buffalo.

"The unwashed Merino fleece will shrink in cleansing and preparing for the cards from 65 to 80 per cent., the Cotswold from 18 to 30 per cent.; and though we do not claim that the mutton breeds will produce a greater weight of wool in proportion to weight of carcase, we do claim that the mutton breeds will produce a greater weight of mutton and wool in proportion to the quantity of food consumed than the Merino."

STOCK SALE IN CANADA.—We learn by the *Canada Farmer* that at the sale by John Snell, of Edmanton, October 28, Short-horn bulls brought from $90 to 147, cows $71 to 150; young cattle, five months old and upward, $60 to $159, the latter price for "Modesty," a yearling. Leicester ewes brought from $12 to $36 a pair; ewe lambs, from $14 to $32 a pair. Cotswold ewes, from $24 to $52 a pair; ewe lambs, from $26 to $47 a pair; rams, from $20 to $60 each. South Down ewes, $10 a pair; rams, from $8 to $24 each. These prices, of course, were for gold. The animals offered were only the surplus of the herd, and the sale realized $3264.

LIME.—Lime enters into the composition of all our crops. Prof. Johnson gives the amount carried off in various crops as follows:—

25 bushels wheat, .	9 lbs	9 tons potatoes . .	270 lbs
50 " oats . .	9 "	2 " wheat straw .	14 "
38 " barley .	15 "	1 " white clover .	43 "
2 tons rye grass . .	33 "	2 " oat straw . .	43 "
2 " clover	126 "	2 " pea straw . .	51 "
25 " turnips . . .	140 "	2 " bean straw . .	92 "

In addition to this, lime decomposes organic matter in the soil, and prepares it for plant food.

AMONG THE CALVES.—Jim Smith was a noted auctioneer. One day he was selling farm stock. Among the articles to be sold was a heifer, very attractive in her appearance, and consequently "Jim" dwelt quite extensively on her many excellencies, winding up with the elegant flourish that she was as "gentle as a dove." Thereupon a long, slab-sided countryman, whose legs were some twelve inches longer than his pants, approaching the heifer and stooping down commenced handling her teat. Bossy, not relishing such familiarity, lifted her hoofs and laid "Greeny" sprawling some ten feet off.

"There," said "Jim," "that shows one of her best traits; she'll never allow a strange calf to come near her!"

"Greeny" meanwhile picked himself up, and giving his bushy pate a harrowing scratch, exclaimed: "No wonder, when her own calf has been bleating around her all day!"

—A correspondent of the *Mirror and Farmer*, writing at Orleans, Mass., a town on Cape Cod, where much attention is given to poultry raising, says that the crows during the past season have destroyed a large number of chickens. One woman has lost some eighty, mostly by crows. They do not eat the chicken, like the hawk, but bore a hole with the bill, against where the heart lies, take out the heart, and leave the rest.

WHEAT CULTURE.

SOME of the Western cultivators are becoming seriously alarmed at the steady depreciation of the wheat crop in all the older wheat growing States. The *Prairie Farmer* of the 7th Nov. has a spirited article under the caption "Where shall we get our bread?" It quotes the report of the Commissioner of Agriculture going to show that within ten years the centre of wheat production will be beyond the Mississippi, and that the yield in California will, in a few years, be reduced from the fifty or sixty bushels to the acre, which it is now, to ten or twelve bushels. The editor states that Ohio within the past three years has imported 10,000,000 bushels of wheat to supply her people with bread, instead of exporting from 6 to 10,000,000 per year, which it formerly did.

This article was followed by another the succeeding week, which was republished in part in our last paper. We wish to call attention particularly to the proposition of the *Prairie Farmer* for a convention of wheat growers to discuss various questions connected with the subject. This is an important matter and it concerns the bread consumers of the whole country, as well as the bread producers. The fact that the average product of Illinois is reduced to ten or eleven bushels per acre is a conclusive proof that the present system of wheat culture is perfectly ruinous, and that an entirely different method must be inaugurated. The great distance to which wheat is now transported, adds enormously to its cost to the consumer.

This is a matter that concerns the East as well as the West. It is arresting the attention of commercial men, and concerns us all. The editor of the *Farmer* says, "had there been no virgin plains west of the Alleghanies, there would be better crops of wheat grown to-day between the Alleghanies and the sea than there are." We have no doubt of this.

There are many varieties of wheat, among which might be found those that are suited to different climates and soils. Varieties might be found that will ripen early enough to escape the devastations of insects. This subject requires study and careful attention. The wheat grown in New England may not be as white as that grown in a more Southern latitude, but it is as sweet, and as nutritious, and with proper cultivation we get more bushels to the acre than any but virgin soils yield at the West. We have grown fastidious about our bread, and sacrifice economy to whiteness. There needs to be a great reform in this respect.

Every farmer in New England should raise the wheat consumed in his own family, at least, and if he will select good seed and drill it into well prepared soil, he can do it, and thus obtain good, sweet, nutritious bread much cheaper than he now does. The bringing of bread ten or fifteen hundred miles by land to feed farmers who are cultivating soil upon which good bread stuffs may be raised, must be an expensive mode of living. A large part of our earnings must be paid for transport. This should be saved at home. The inhabitant of the city, the mechanic and the manufacturer, must purchase their bread, and they will of course obtain it in the market, but the farmer should find his own bread in his own granary.

Western men are coming back to the East to learn more scientific methods of culture, and are learning that they have no right to expect a continuation of large crops, without returning to the soil the elements which the crops have taken from it. When this lesson is learned, instead of the "bread centre" being at the foot of the Rocky Mountains, or beyond, we shall raise a larger portion of our breadstuffs in the older States than we do now.

A GOOD NATIVE COW.—A correspondent informs us that Luther Stanley of Springvale, Me., has a native cow from the milk of which in seven days, eleven pounds of butter were made. The cow had only common pasture feed.

FISH GUANO.

A correspondent asks us to give an "opinion as to the feasibility of manufacturing a *fish guano* from the offal and decaying portion of fish, which we as yet can find no use for."

The turning of fish into manure has already been done, and with excellent results, on various portions of our coast. As a special fertilizer, it has become an important article of commerce, and is found to be a profitable auxiliary in the production of various crops. In some instances the entire fish, fresh from the ocean, is used for carrying a crop of corn, by depositing one or two in a hill, hauling a little soil over them and dropping the seed upon it. We are not aware that they are used on the cereal grains, spread broadcast and ploughed under, in this country. The fish taken for the purposes of dressing the soil are chiefly the menhaden, but the alewives and some others are taken when coming upon the coast in large numbers. One process of preparing them is by pressure. This is done by steam or other power, and it is so great as to force out all the oil they contain,—which is the first object in view,—and leave the mass almost as dry as so much seasoned wood. It is then ground in a mill, or in some way broken, and is barrelled for market. Put up in this manner it can be transported inland by wagon or railroad, and we should think might become an important article in the raising of cotton. In the cotton districts, near the coast, it would seem that this special fertilizer might be made available to a very great extent, and if so on cotton, on other crops.

Fish are extensively and profitably used as manure by the farmers on Long Island and in many places in the New England States. On Chesapeake Bay, in Maryland, the farmers collect large quantities of refuse,—the heads, cleanings, &c.,—and cart them many miles inland; and so they do from the fisheries on the Potomac, Delaware and other rivers.

Another, and quite a rapid and ingenious mode of converting fish into guano, is frequently adopted by those living near the fishing grounds. In the first place, an ample ditch is dug in or near the field where the manure is to be used, and the soil thrown up carefully in a ridge directly on its edges. The proprietor then visits the fishing grounds, and when the seine is hauled an estimate is made of the number of barrels of fish which it contains, aud the whole purchased and thrown into carts and conveyed to the ditch. When the ditch is filled up to a level of the surrounding ground, a sprinkling of fine earth is scattered over the fish. If the weather proves warm for two or three successive days, a slight motion may be noticed on the surface of the mass, which shows that fermentation has taken place on the upper layer of the fish. A little more fine soil is then added, and the heap watched with especial care. Fermentation and decomposition now proceed very rapidly. The mass, from an inert soon becomes a very active one; and the amount, in numbers, of animal life, is perfectly astonishing. Their name is legion upon legion! The whole bulk is in motion. A moving mass of wriggling, slimy worms, all seemingly intent to escape from the pit in which they were generated, are crowding the banks of the ditch and the ridges of earth to make their escape! And escape they would, were not help at hand. This result has been anticipated, and workmen have been summoned to the spot to prevent it —which they do by throwing down the ridges and burying the creatures where they were born. Sometimes this is an exciting scene,—for if the work is delayed a little too long, the crawling gentry have escaped in such numbers upon the ridges and the surrounding soil, as to make the work anything but agreeable. After this, the heap must be watched for a day or two, as the lower strata occasionally push through the superincumbent mass, and a new exodus takes place. An additional covering of soil retards their motions, and finally presses upon them so heavily as to suffocate, or in some other way destroy them. At the end of a few days, the whole is thrown out, more soil, muck or coal ashes mingled with it, if thought necessary, and it is then ready for use, and is applied in the hill, at a rate according to its degree of strength.

All preparations of fish are very rich fertilizers; even where the oil is extracted, as in the process of pressing. When all parts are preserved, the fleshy or muscular portions abound in oil. The scales are composed of coagulated albumen and phosphate of lime; the bones are full of oil, and the solid portion is composed of phosphate of lime and carbonate of lime in different proportions. The flesh also contains large quantities of nitrogen, and acts with much energy in hastening the growth of plants. The effect of fish manure upon soils is supposed to be more permanent than that of most other special fertilizers. Sir H. Davy states that the effects of pilchards,—a very oily fish—are apparent for several years, after being mingled with the soil.

We hope our correspondent will enter judiciously into the preparation of fish guano, make a pure article, sell it at a fair profit and tell the world precisely what he is selling. Farmers have been so grossly deceived in the purchase of special fertilizers, that they have become exceedingly distrustful of everything that bears the name, and often sacrifice their interest rather than purchase and run the risk of being cheated.

There is no doubt but that any quantity that can be produced, of a good article, will find a ready demand in the New England States, if sold at a fair profit to the manufacturer.

For the New England Farmer.

A VISIT IN SUNCOOK VALLEY, N. H.

I recently had the pleasure of a visit with some of the farmers of this section. From Concord to Pittsfield I rode in the stage, and passed much land that is almost worthless for farming purposes. These are sandy pine plains and rough stony land. Thrifty growths of white birch, oak, pine, chestnut, &c., are growing on land that had once been cleared; when the settlers seemed in doubt whether to hold on to their clearings or let them go back to wood land. I saw some good farms in the Suncook valley, about Pittsfield, Barnstead and Epsom, and also on the hills.

Value and use of Forests here and in Vermont.

Everywhere there was plenty of wood land in sight, and it was highly valued. I walked through a fifty acre wood lot on one farm, where the land had been cleared and grain was raised less than forty years ago. The stone-heaps of the old cultivation were visible, yet the owner had cut on about one-third of an acre, fifteen cords of wood, that he sold in Concord for $125, (from $8 to $9 per cord.) This whole lot would yield $100 in marketable wood per acre, and also enough more to pay expense of cutting and marketing. There were several pine trees worth $25 each. This wood lot was part of a two-hundred-acre farm tilled by Albion Locke, Esq. The whole farm is valued at about $5000, just about the value of that piece of timber, although it has good fields and pastures and a good house and barn. But in some of the northern counties of Vermont, remote from large villages, the value of woodland is very different from what it is in this section. In Orleans County, Vt., good farming land can be bought for five dollars per acre, in some localities, covered with a good growth of large trees of maple, beach, birch, spruce and hemlock, but no pine. There is a limited demand for wood at $3 per cord. Last winter an energetic man with 120 acres of wood tried to raise some money by drawing 100 cords to the village, three miles off. He paid one dollar a cord for chopping, and hired a man to draw it. Including board of man and team, he found that he should have done better by $25 if he had let the wood stand. Hence it is evident that wood land cannot be cleared in that way, at a profit, and if it is left standing it is starvation to the owner of a new farm, as corn and wood do not thrive together. However wasteful it may seem to those in older sections, the true way to make a farm in the wilderness is to burn the wood and clear the land by fire, speedily and thoroughly. This done, the crops each year will pay a profit. Thus, while the man who loves his wood land is living in poverty, the one that clears his land is surrounded by comforts that his fertile acres annually yield. The idea that timber affects climate favorably, is in some degree erroneous. It will surely break the force of winds and cause them to move perhaps a hundred feet above the surface, rather than upon the ground. A belt of timber will protect from winds, but the temperature falls as low and storms come as often as upon exposed highlands. My cattle seem to think the south side of my barn the warmest, yet the many barns that have been built have not turned winter to summer, nor changed the climate materially ' It makes a very pretty sentence to weave in with a glorification of the steam engine anticipations of the time when our acres of wood will be wanted at high prices, but such enthusiastic predictions do not give food to man or beast; nor do railroads, as yet, transport wood from the land of plenty to the land of scarcity, at a rate so low as to give a great margin for profit. Three dollars' worth of wood will weigh two tons, while the same value of butter or wool is trifling.

Preparation of Land for Corn—Oiling Cart Wheels.

Mr. Locke was preparing his corn land for next spring. He plows a piece of grass land, and on the furrows spreads the manure made by his cattle during the last winter and summer, which is stored in a good barn cellar. This manure is harrowed in in the fall, and then in the spring is harrowed mellow, and the corn planted. The manure being so fully incorporated with the soil, produces the best results. The next crop will be wheat, with which grass seed is sown.

The cart used by Mr. L. is peculiar in one respect, which is worthy of notice. In each hub a tin tube was set in brimstone, which extended from the surface through the hub and the tube box to the iron axle, so that by taking out the stopper, the oil could be turned upon the axle through the tube, without removing the wheel. This has proved a great convenience, as sometimes it is desirable to oil the axles when loaded.

Rye, or Witch Grass.

On the farms in this section of New Hampshire this grass grows very commonly, and is now regarded by many with favor, as it does not seriously interfere with raising grain, and is sure to grow after the ground is seeded to grass; giving, if cut early, a crop of nutritious hay. Some say that witch grass alone will cause a horse to thrive as well as other hay accompanied by four quarts of oats.

Black Leg.

A disease among young cattle, known by this name, has caused great losses here, but bleeding has been found a sure preventive, and, if resorted to in season, a cure in most cases. Mr. Prescott Locke had 15 calves, of which seven drooped and died of black leg; and another was attacked when he had the remaining eight bled, all of which lived. A fattening ox also was attacked and saved by bleeding and exercise. I believe that young cattle should be bled in the spring, and just before they go into the fields in the fall; but this is often delayed until the death of one gives warning of danger. The black leg is the result of the coagulation of blood in the legs or some parts of the body. When the animal is skinned, it looks quite dark and bloody, but bleeding makes the blood thinner, and has proved a satisfactory remedy.

Smoking Hams.

I received a new idea from Mr. Locke in regard to smoking hams. Let the hams remain frozen and wrapped in papers through cold weather. In the spring, smoke your barrel by gradually burning under it, when inverted, a bushel of cobs, then rinse the barrel with warm water that is to be used in making the brine. For 100 pounds of meat, use ten lbs. salt, 2 qts. molasses, 2 ozs. saltpetre, with water enough to cover the meat. Scald the brine, skim it, and put it with the hams, packed in the smoked barrel. Treated in this way the hams have the taste of smoked meat, without smoking, and will keep, like other salt meat, through the summer.

Cob Meal for Man as well as Beast.

I went with Mr. A. Locke to the saw and grist mill owned by him, in Epsom village. I found it was customary for farmers to bring their corn in the ear and have cobs and corn ground together. This has become rather unpopular in Vermont. In my vicinity such meal is only fed to animals,—here in New Hampshire it is ground finer and used for making bread, as well as fattening animals. Having partaken of this bread freely at several meals, I must say it was excellent. In Coventry, Vt., Mr. Daily, the miller, has completely worn out a cast iron corn-cracker, and those who used the large amount of meal thus made came to the conclusion that grinding cobs did not pay; but here it is regarded with favor, and if the results continue satisfactory, I must think it is because it is ground very fine, so that no hard indigestible chips of the cob remain.

Oxen as a Farm Team,

Are regarded with more favor in New Hampshire than in Northern Vermont. I saw one farmer using eight oxen, another drawing muck with six, and from conversation I found them to be a favorite team. On the farm of Augustus Lord, in Epsom, the stock is nearly all oxen. Last winter forty-two oxen were fattened that girthed from seven to nine feet each. The largest pair sold for $700. The last summer they were fed they had meal regularly and gained five inches in girth. At present there are only eight oxen in the stalls; the largest pair are five years old, and girth eight feet two inches. These steers did not have meal through the summer, and did not gain in size. Would it have been more profitable to meal them? The usual daily ration is a peck each.

At Suncook a factory to run 1000 looms is being built, in which three and a half millions of brick are used. Z. E. Jameson.

Irasburg, Vt., Nov. 19, 1868.

Remarks.—We thank our correspondent for the foregoing communication. Might not many farmers furnish similar articles, based on what they see abroad, if their home experience fails to furnish matter for an occasional letter? We can hardly endorse, however, the writer's recommendation of fall and spring bleeding of stock. This was more customary in our boyhood than it is now. We remember that the old fleams and the jack-knife were often used,—the first on the neck and the latter on the tails of cattle. We should not care to see in one bloody heap all the "scalps" which we have taken from the caudal appendage of young cattle suspected of "horn-ail" in the "fly-brush!" In the days and in the neighborhood of our boyhood men as well as animals were bled not only to restore, but to preserve health. But so far as we know our best family physicians have abandoned the use of the lancet to a very great degree; and we had supposed that our veterinary surgeons and most careful farmers were following the example of the "M. D.'s" in this respect. Still in the cases alluded to, bleeding appears to have been attended with beneficial results. And our remarks are designed to call out the expeence of others, rather than to express a positive opinion of our own. We may, perhaps, remark that Mr. Allen, in his new work on "American Cattle," disapproves of bleeding, and that the late Dr. Dadd cried out with great energy, "No more blood-letting!" The amount of capital invested in stock growing in this country gives great interest to all questions involving its management, both in health and in sickness. What is the practice of farmers in relation to bleeding their animals?

For the New England Farmer.

RECIPROCITY—MUTTON.

The American farmer takes his ideas of sheep from the Merino, which is a wool sheep and nothing else, and as a consequence whenever anything is said about sheep, we always hear the cry of wool, wool! This is the cry with Dr. Randall in reference to the Reciprocity treaty. But there is something more than wool in the long wooled sheep. There is mutton, and why do we not hear, in the connection with the renewal of the Reciprocity treaty, the cry of mutton? Why do not our farmers ask to be protected against Canadian mutton? And why not against Canadian beef? Because our farmers can produce beef as cheap and as good as the Canadians. They can also produce as good mutton as the Canadians, and without considering wool at all, they can produce mutton as cheap as beef; that is, if they obtain mutton sheep.

The leading object with the merino sheep is wool, but with the long wooled or mutton sheep the leading object is mutton, not wool, although the wool brings such a high price.

The English farmer labors to produce mutton. He selects his sheep for early maturity; he wants to fat his wethers at two years old. This is what is aimed at by all the new and improved breeds. It has not been either finer or longer wool, as the staple has been shortened; but in obtaining sheep that matured early they kept them all the time improving, and thus produced wool which was less liable to break,—that is, the staple was uniform, having no weak places in it, and there was less cotted wool in it, and as a consequence, it was more valuable. Let the farmer forget all about wool, but labor to produce the best of mutton from the youngest sheep, and he will produce the best wool,—he cannot do anything else,—that is, the best of its kind. A better breed might produce better wool. Another thing he must remember, that long wooled sheep mature earlier than the merino, and decay sooner. He never ought to breed from his own ewes after they are five years old. Fat them at that age, and he will have good mutton from his ewes, and wool not much deteriorated; but wool from old ewes is liable to be weak and cotted, loose and dry, or what J. Walworth designates "brastry," a term we believe unknown in the English language, but very expressive. But unless sheep are kept in good thriving condition, we cannot have good wool. Then again, must be considered the value of the lambs from long wooled sheep. Here is another source of wealth. For the butcher, merino lambs are of little value, but from the long wools, their large size and early maturity are objects for the farmer near or where access is easy to the market.

We want this subject looked at from every stand point,—and we have another consideration in the fact that it costs little more to fence against long wooled sheep than against other cattle; but they require good pastures, and here is a point where our farmers fail. They want to keep the long wool sheep on pastures where the merino can only obtain a bare existence, and they become poor and their wool worthless almost, and the farmers abandon long wooled sheep because, they say, they are not adapted to our system of farming. They also crowd them during winter into close quarters, and feed them on the poorest of hay, and when they come out in the spring poor, and wool worth little, they say this will not do,—we must go back to the merino. But they gave the best of hay, meal and oil cake and roots to the stall-fed ox, and he comes out fat and worth a pile for beef. Had they fed their sheep the same, they would have had as much weight of mutton as of beef, and would sell for as much, and sixty pounds of wool besides; but they fed the sheep with what the oxen would not eat, and then found fault because they do not come out as well.

MENTOR.

Boston, Nov. 27, 1868.

REMARKS.—We believe that our farmers do ask to be protected against Canada beef and mutton, as well as wool. We were recently informed by one of the buyers of Canada stock for Brighton market that an intelligent farmer in the Provinces told him that after paying the duty on stock he could successfully compete with the farmers in the States.

—Orrin Hager, of Wallingford, Vt., writes to the FARMER that while at work in the barn with his father recently, they found a raccoon snugly curled up in a barrel that stood on the floor. On taking him to the house he was rather bashful at first, but now he eats maple molasses and other delicacies, and appears to be quite well satisfied with his winter quarters.

From the Springfield, Mass. Republican.

WILLIE WENT A WOOING.

Young Willie went a wooing,
One pleasant Sunday night;
Went wooing Jennie Gilbert—
Pray who had a better right?
The dew was on the flowers,
The stars were shining bright,
When Willie went a wooing,
One pleasant Sunday night.

The path led through the meadow,
To farmer Gilbert's house,
And Willie trod as gently,
And "sly as a mouse."
But his heart it grew tumultuous,
When first he saw the light
In farmer Gilbert's parlor,
That pleasant Sunday night.

Jennie Gilbert was the mistress
Of farmer Gilbert's farm,
And many fond admirers
Had offered her their arm;
And told her how they loved her,
But it wasn't told aright,
Until Willie went a wooing,
One pleasant Sunday night.

She was her father's all on earth;
Her mother, years ago,
Went down the darkened valley,
And crossed the river's flow;
And Jennie grew to womanhood,—
Of her father's home the light,
Where Willie went a wooing,
One pleasant Sunday night.

'Twas never known what Willie said,
Nor how his love he told,
But—Jennie let him hold her hand,
(Perhaps that made him bold,)
For he kissed her on her burning cheek.
Her little hand held tight,—
Did Willie, while a wooing,
One pleasant Sunday night.

The farmer in the kitchen lone,
Sat by himself apart,
The wooing in the parlor
Made sorrowful his heart.
The hour hand on the kitchen clock
Was standing bolt upright,
Ere Willie left off wooing,
That pleasant Sunday night.

To breakfast on the morrow,
Jennie came a little late,
Her father gazed into her eyes,
And sought to read his fate;
But she kept her secret nobly,
Her father's gaze despite,
Said not a word of Willie
Or the pleasant Sunday night.

Dark-browed sat farmer Gilbert,
And with a lengthened face,
He thought of all the empty rooms,
Within that pleasant place;
So sad was his demeanor,
That Jennie, pale with fright,
Thought Willie sure was tabooed
From coming Sunday night.

But Willie Gray was sent for
That very blessed day,
And everything was settled
Before he went away.
For Will, and Jane, and "Father"
"Put everything to rights,"
And Willie came a wooing,
The coming Sunday nights.

Blithe Will and gentle Jennie
Now journey side by side,
A worthy, happy husband,
A loved and loving bride.
Farmer Gilbert rocks the cradle,
The farm looks trim and bright,
And Willie woes his Jennie
Now, every Sunday night.

EXTRACTS AND REPLIES.

FATTENING SHEEP.

Please give the best method and feed for fattening sheep. D. H.

Otisfield, Me., Nov. 3, 1868.

REMARKS.—The best method and feed must of course depend somewhat on circumstances. But after all, the pith of the old saying that "the good workman never complains of tools" is about as applicable to the feeder as to the mechanic. The best method and materials for building a ship can only be learned by actual practice, and we believe there is about as much experience and skill required in fattening sheep as in building ships. In either case the recorded knowledge of other men may assist, but cannot make the finished workman. It is therefore with much diffidence that we attempt a reply to a request for information on a subject of which we have little practical knowledge, as but few sheep are fattened in our neighborhood.

We copied last summer,—MONTHLY FARMER page 322, some remarks upon the subject by an English farmer who put the remark in italics, "*I always try to avoid letting any of my sheep or lambs have any sudden change of food*," thus indicating his high appreciation of the importance of regularity and care in feeding. Indeed, Dr. Randall says "all experienced flockmasters concur in the opinion that sheep fed with perfect regularity as to time and amount will do better on rather inferior keep, than on the best without that regularity."

John Johnston, Esq., the well known farmer of Geneva, N. Y., gave the following account a few years ago of his manner of feeding sheep.

"I generally buy my sheep in October. Then I have good pasture to put them on, and they gain a good deal before winter sets in. I have generally had to put them in the yards about the first of December. For the last twenty-three years I have fed straw the first two or two and a half months, a pound of oil cake, meal or grain, to each sheep. When I commence feeding hay, if it is good early cut clover, I generally reduce the quantity of meal or grain one-half; but that depends on the condition of the sheep. If they are not pretty fat, I continue the full feed of meal or grain with their clover, and on both they fatten wonderfully fast. This year (1862-3) I fed buckwheat, a pound to each per day, half in the morning and half at four o'clock P. M., with wheat and barley straw. I found the sheep gained a little over a pound each per week. It never was profitable for me to commence fattening lean sheep, or very fat ones. Sheep should be tolerably fair mutton when yarded. I keep their yards and sheds thoroughly littered with straw.

"Last year I only fed straw one month. The sheep were fed a pound of buckwheat each. From the 20th of October to the 1st of March, they gained nearly 1½ pounds each per week. They were full-blood Merinos—but not those with the large *cravats* around their necks. I have fed sheep for the eastern markets for more than thirty years, and I always made a profit on them except in 1841-2. I then fed at a loss. It was a tight squeeze in 1860-1 to get their dung for profit. Some years I have made largely. I did so this year, (1862-3,) and if I had held on two weeks longer I should have made much more. Taking all together it has been a good business for me."

Mr. W. R. Webb, of Milford Centre, Ohio, in a communication to the *Country Gentleman*, says that the common practice in that corn-growing section is to buy up sheep for feeding in the summer and fall months, put them on good pastures till about the middle of November, when feeding commences with about half an ear of corn each day, gradually increasing the amount till the first or middle of December—according to the season—when they commence giving them corn in the shock, at the rate of two bushels per 100 sheep; which is gradually increased up to three bushels. They are fed corn in the morning and hay in the evening. The corn is of the large Western kind and is never husked, consequently the sheep have not only the corn but the fodder likewise. The shocks are usually made of one hundred hills, and we suppose are drawn from the field as wanted. Some of the best feeders say they would not have the corn husked if it could be done for nothing. Mr. Webb's sheep had a shed for protection, with access to water. He thinks that one wetting by exposure to storms will take off two week's feed.

KING OF TOMPKINS COUNTY.

Herewith I send you some specimens of one of the finest apples I have ever seen. I raised this year about two bushels, all nearly as fair and large as these.

I think upon trying them you will pronounce a favorable judgment. It is a full bearer and has no bad quality, while it abounds with virtues. The name is indicative of its place of nativity, in New York,—the "King of Tompkins County."

I. A. Shurtleff,
by Augustine Shurtleff.

Brookline, Mass., Nov. 24, 1868.

Remarks.—Thanks for the beautiful apples, which prove as good as they are fair. Put in the scales the specimens received averaged 8½ ounces. "This splendid apple," says Dr. Warder, in his *American Pomology*, "which has attracted so much attention of recent years, had its origin, as is supposed, in Tompkins county, N. Y., where it has been much cultivated. Tree vigorous, healthy, large and spreading, an abundant annual bearer. Fruit large, handsome, globular, irregular, somewhat conic, angular; surface smooth, yellow, covered deep red, marbled and striped; dots numerous, gray, large. Basin, shallow, folded; eye large, short, closed; cavity wide, shallow, wavy; stem short and thick. Flesh yellowish-white, tender, breaking; flavor sub-acid, aromatic. Quality best. Use, table, kitchen and market; season, December and longer." Mr. Cole says, "as good as the Wine apple, as showy, and better than the 20-Ounce."

These specimens raised on Massachusetts' soil, are about half an inch larger in diameter than the outline in Warder's Pomology, and proportionally longer. Considering the fact that the author of that work lives in Missouri, and that his specimens were probably raised in the fertile West, this fact is alike creditable to our old Commonwealth and to the skill and care of those by whom they were raised.

NORWAY OATS.

If the oats called Norway oats were first discovered in this country on the farm of D. W. Ramsdell of Vermont, I would like to know why they are called *Norway Oats*. A Subscriber.

North Ferrisburg, Vt., Nov. 23, 1868.

Remarks.—In reply to a similar inquiry made by a member of the New York Farmers' Club, at a late meeting, and in response to Solon Robinson, who denounced these oats as "a swindle and an unmitigated humbug," Mr. Jones, one of the firm who advertise them in New York, claimed a hearing. As reported in the *Tribune*, he said:—"The name 'Norway' we simply employ as a trade mark, which we have a right to do. Here Mr. Jones talked a long time about the superiority of the Norway oats, and stated that this is *not* another name for the Poland oats. They do not, he said, claim that the Norway is very much heavier than the common oats. But what they do claim is, that the Norway yields more abundant crops of grain. The straw is much stiffer and maintains an erect position on any kind of land much longer than the common oats, and consequently the panicles fill with grain much more satisfactorily than if the stems fell down before the kernels have come to maturity. Its bearing qualities, he said, are truly wonderful."

AN INTERESTING CASE OF PARALYSIS.

A neighbor of mine has a horse, the lips of which are paralyzed. Early last summer the horse got a poke over his ears and across his head in such a way that it was almost impossible to get it off. Immediately afterwards his lips became very badly swollen, and although he could gather some grass with his teeth, he was unable to hold it in his mouth, and has, therefore, become very poor. Perhaps some of your correspondents will know a remedy. W. B. K.

West Fairlee, Vt., Nov. 13, 1868.

Remarks.—We hope some reader of the Farmer will respond to the above request. Mr. Youatt says, "the stream of nervous influence is sometimes stopped, and thence results palsy or paralysis. This in the horse usually proceeds from some injury to the spinal cord." But these remarks were made in connection with the subject of paralysis of the fore or hind extremities of the horse. The *American Cyclopædia* defines paralysis as "the loss of the function of motion or sensation from an interruption or destruction of the nervous influence necessary to those acts. This may occur either in the brain, in the course of the nervous connection, (spinal marrow and nerves) or in the peripheral termination of these nerves." Paralysis is, therefore, a symptom rather than a disease,—a result rather than a cause,—and our inquiry should be directed rather to the cause than the effect. Mr. Youatt says when paralysis is confined to certain parts alone, such as the ear, lips and larynx, any apparent cause should be at once removed, and then treated by counter irritants, such as blisters and setons.

OXFORD DOWN SHEEP.—DRYING MUCK.

In looking over your paper this evening I see an article headed "Long Wooled Sheep," and in reading it I see the writer mentions the Oxford Downs as a valuable breed. From what he says, and from the description I have seen before of them, I think I should like them, and I wish to inquire of you or your contributor Mentor, where they can be found.

I would also like to inquire of your subscribers who are accustomed to using muck, if it can be dried without great expense so it can be used under the cattle in the winter, and if so, what is the best way of doing it. B. B. SMITH.

Dover, Me., Nov. 14, 1868.

REMARKS.—In relation to the Oxford Downs we can give our correspondent little information. It was originally a cross of the Hampshire and South Down ewes with a Cotswold ram, which has been bred in England with sufficient care to produce a sheep of uniform character. Mr. Richard S. Fay, of Lynn, Mass., imported some of them a few years ago, and was well pleased with them, but we do not know whether he has them now or not.

Muck for bedding cattle is dried simply by exposure to the weather for several months after being dug out of the bog, carted in a dry time to some shed, barn cellar, leanto or other shelter, and of convenient access to the cattle stalls. Some adopt the plan of beginning an excavation at the border of the marsh sufficiently wide for a cart path, throwing the muck out on boards or planks laid upon the surface on each side, to prevent it from absorbing moisture from the wet ground beneath; this broad ditch being carried to a sufficient length and depth to obtain the requisite quantity of muck. Thus thrown out, the two piles are covered with boards, and in from six to twelve months will be found to be dry and light. If the bottom of the ditch is solid a cart may be backed into it and very easily filled; or, if soft, wait till the ground is sufficiently frozen to bear the team and cart or sled.

This exposure of the muck has other beneficial effects beside that of drying. The fibres of moss, grass roots, &c., are decomposed so that the tough blocks are readily pulverized. "Another advantage," says Prof. S. W. Johnson, "of exposure is to bring the peat into a state of more active chemical change. Peat of the deeper, denser sorts, is generally too inert ('sour,' cold) to be directly useful to the plant. By exposure to the air it appears gradually to acquire the properties of the humus of the soil, or of stable manure, which are vegetable matters, altered by the same exposures. It appears to become more readily oxidable, more active, chemically, and thus more capable of exciting or rather aiding vegetable growth, which so far as the soil is concerned, is the result of chemical activities." Peat used for fuel is sometimes kiln-dried, but we have never known of any such expensive process in preparing it for bedding; nor do we think there is any need of it. If thrown out upon dry land in fall, winter or spring, without any covering, it will become sufficiently dry during the summer to answer a good purpose, if housed when thus dry.

HOUSE CELLARS.

While engaged in banking the house this week, at odd jobs, the question occurred to me, how much does it cost first to bank a house every fall and then to take it away every spring? Not less than one day's work for each operation. This in forty years would amount to $80 at only $1 per day,—quite a sum for a farmer to spend. Besides this, there is the wear of the house to be taken into account. I have inquired of several of my neighbors how all this expense can be saved. "Better underpinning," is all the answer I get from some; others say "lay your wall in mortar." Some say that it is enough to lay two feet of the top in mortar; others that it should be so laid from top to bottom. Some say that the wall should be double with a space for air; others that a single wall is sufficient. It is very important that we should be able to keep our potatoes, apples, vegetables, &c., from frost. How would it do to point an ordinary wall with mortar, then set up some two-inch stuff and lath and plaster on that? A reply to these questions by the editor or some of the correspondents of the FARMER will confer a favor on

A YOUNG FARMER.

Wallingford, Vt., Nov. 2, 1868.

REMARKS.—A cellar may be kept from freezing by setting the house on a stone or brick underpinning which is from twelve to eighteen inches thick, lining up inside with bricks or flat stones, and leaving a space of an inch to six inches for "dead air" between the two. But where a house is set directly upon the cellar wall this cannot well be done. In such cases it is a dirty, expensive and ruinous practice to bank up with earth. It requires a team to do it, cuts up and defaces the yard about the house, and rots the wood-work and sills when it is done. In the spring the earth is to be removed when the ground is soft, and the dirty process is to be gone over with again.

A better way is to "bank up" with some light substance. Frost will penetrate a granite slab two feet thick, quicker than it will a bag of feathers of half that thickness. If dry leaves are at hand, put up the boards edgewise so as to leave a space twelve to eighteen inches wide between them and the house and fill it with dry leaves, tread them down, and cover them over with boards laid on so as to conduct the rain away. If leaves are not at hand, refuse hay or straw may be used.

The best substance, however, that we have found is branches of the white pine, hemlock or other evergreen trees. It is easily procured, and requires no use of boards in banking. Cover a space with them two feet or more wide on the ground, and as high against the house as you please, and tread them down so that they will lie somewhat compactly. If the first snow that thus falls is attended by wind, it will probably sift the snow into all the crevices among the branches and these form a most effectual barrier against the progress of King Frost. If the wind does not do the work, do it yourself with a shovel.

All the drainage of the house which we occupy passes out through the north corner under a woodhouse floor. This is never warmed by fire. *Outside* of the house, pine branches are laid upon the ground and up against the clapboards, to the depth of about two feet, and none of the pipes have frozen, although water is continually drizzling through them.

COTSWOLDS IN VERMONT.

Enclosed I send you a sample of wool clipped from a Cotswold ewe (one of nine) recently purchased from Mr. T. L. Hart, West Cornwall, Conn. They, together with the bucks received from Mr. H., are good specimens of this breed of sheep. The wool on one of the bucks measures over seven inches, is quite thick and firm. I have a specimen of wool of fourteen months growth, taken from a cosset ewe, which measures fifteen inches.

Montpelier, *Vt.*, *Nov.* 30, 1868. A. D. Arms.

Remarks.—No wonder that beautiful delicate cloth, fit for anybody's wife's or daughter's Sunday dress can be made from such silky, glossy fibres as those which make up the beautiful lock of wool accompanying the above communication. The editor of the *Montpelier Journal*, who had the pleasure of examining these sheep, says, "a visit to this flock will well repay any one interested in breeding sheep. Much praise is due to Mr. Arms for the enterprise he has exhibited in procuring them."

WANTS TO KNOW ALL ABOUT FRUIT CULTURE.

I have purchased a small farm ten miles from Boston, and as I am but an amateur in farming, though all my boyish days were spent in that occupation, I take the liberty of making some inquiries through your valuable paper. Most of the land of the farm is a light sandy loam. A small run, however, passes through it, with a brook, and a level plat on its border of very rich, dark loam. The south bank of the valley consists of four terraces varying from eight to twelve feet wide. I wish to cultivate fruit to considerable extent of all the best varieties suited to the soil and climate. I wish to learn what are the best and most reliable pears, apples, peaches, cherries, plums and quinces, with best variety of small fruits. Is it advisable to set them out this fall, or wait till spring? Where can I find the best assortment, and most reliable man to purchase of? I propose to set out this fall and next spring three or four hundred pear trees with apple, peach and cherries. If you, or any of your correspondents, will post me up in these matters, you will much oblige

Boston, *Nov.* 29, 1868. A Subscriber.

Remarks.—Our correspondent is full of zeal, and, like a new broom, means to sweep clean. He has laid out a large work, and we fear, will attempt too much at once. It will be impossible for him to learn from the books, or from what we may say, all he desires to know; he must get most of it by experience, by actual contact with the work itself. Still, he can be greatly aided by books, and to secure this aid we advise him to get *Downing's Fruits and Fruit Trees of America*, and read it carefully through the winter. Another source of aid—far better than any we can give him—is to visit the farms of his neighbors and see for himself what crops flourish best on soils similar to his own, especially noting whether the fruit trees he desires to cultivate are thrifty and produce crops. He should then put the same questions to his neighbors that he has put to us, because different localities are favorable or unfavorable to the culture of fruit trees, and our suggestions may not suit his particular locality.

Apple trees may as well be set in the fall as in the spring; peach, pear and cherry trees, we prefer to set in the spring. You must look to our advertising columns for persons who sell trees. Most of them are able to supply all the common varieties.

CURES FOR GREASE OR SCRATCHES.

In reply to the inquiry of "R. P. T." of Canaan, Vt., for a cure for scratches, I copy the following from Chase's Receipt Book:—1. Wood ashes lye and a strong decoction of white oak bark, boiled together, will cure bad cases of scratches, but it will take off the hair. Must be applied with a long handled swab, as it will make the animal tear around like mad. 2. Half ounce of verdigris in one pint of whiskey. 3. Sweet oil 6 ounces, borax 2 ounces, sugar of lead 2 ounces, well mixed and applied twice a day. 4. Copperas and chamberlye, used as above. 5. White lead and linseed oil, mixed as for paint; some prefer lamp oil; if the latter is used, it must be mixed till it assumes a light straw color. Before applying either of the above the horse's legs must be washed perfectly clean and rubbed dry. A Subscriber.

North Orange, *Mass.*, *Nov.* 28, 1868.

Remarks.—We know nothing of "Chase's Receipt Book." Our correspondent says of the first three prescriptions, I feel safe in saying that the worst cases will be cured in a few days by their use. There seems to be as many cures for the scratches as there are out West for the ague.

THE NOVEMBER SHOOTING STARS.

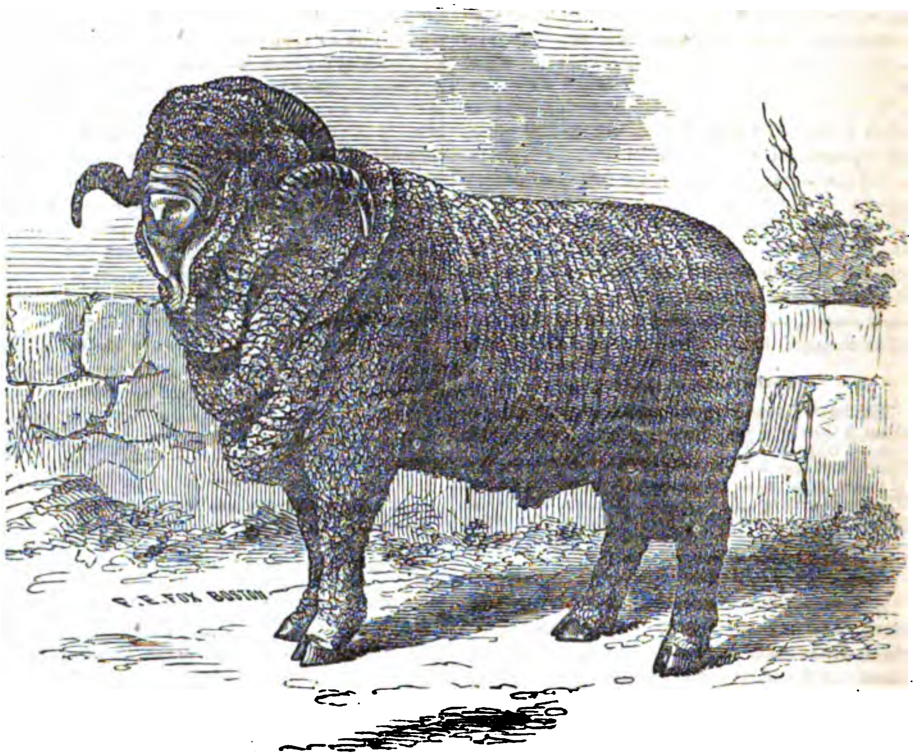
Our Indian summer that has delayed its coming so long, was fairly inaugurated this morning by a grand display of fireworks. You may remember that two years ago, I was watching so eagerly for a similar scene that I dreamed about it, and waked to find my dream unrealized. Last night I retired without thinking of the matter, but still I dreamed of the meteors, and as I started on my customary round of chores, lantern in hand, I soon found that my dream this time was more than realized, as from that time till the greater light that rules the day put out the fixed stars the display was truly grand. Many of the largest meteors leaving a brilliant train that lasted some time.

Roxbury, *Vt.*, *Nov.* 14, 1868. W. I. Simonds.

CURE FOR CHILBLAINS.

Anoint the feet thoroughly with salt butter, and heat in by a hot fire for five or ten minutes.

Brookfield, *Vt.*, 1868. L. W. B.



MERINO SHEEP.

About three years ago it was stated in a public address that all our national flags "are grown, spun, woven and dyed in England; and that on the 4th of July, the proud American ensign which floats over every American ship, post and fort, and every patriotic home, flaunts forth upon the breese the industrial dependence of America upon England." It was also said that "we imported in 1860 $15,000,000 of worsteds, principally from England, while we made only $3,000,000." These and a great many similar facts have satisfied us that more attention ought to be given to the production of coarse or combing wool. The demand for mutton is another argument in favor of a larger breed of sheep than the Merino.

While favoring therefore the introduction of the Leicester, Cotswold and Downs, we should be sorry to see it done at the expense of a breed so valuble as the Merino, or under the excitement of a "fever."

We dread fevers. Whether the patient be an individual or a community, both pulse and brain are affected. The poor patient is often subject to hallucinations and phantasies which, though strangely real at the time, prove on his recovery as a dream when one awaketh. We do not know that the American people are constitutionally predisposed to fevers, but the frequency of their occurrence in the community would seem to justify the most stringent precautionary measures. We are just recovering from a hop fever that has proved of unusual severity. A violent type of potato fever is known to exist in some sections, while in others many cases of a relapse of the hen fever are reported. One of the worst features of these diseases is seen in the fact that they are succeeded by a chill, which usually corresponds to the intensity of the fever. A few years ago Merino bucks were sold from one to ten thousand dollars per head; Merino sheep are now sold in our Eastern markets at one to two dollars each, and at the West we read of their being pelted and boiled up for the tallow and pig-feed their carcases afford! And now everybody is going into the dairy business, stock raising, or growing coarse wool.

We fully believe, as Mr. J. Harris of Rochester, N. Y., says in the *American Agriculturist*, that "farmers are making a great mistake in slaughtering their sheep. But nothing will stop them. It is a pity we cannot have more stability and fixedness of purpose in our agriculture. What we do we should do well—and stick to it. A farmer should think for himself, and not be influenced too much by outside opinion. 'You cannot make anything by raising common crops,' said a friend a year ago; 'you should set out a hop-yard.' What would he say now? There has been more money lost in hops the last year than would richly endow an agricultural college. And if people were educated to *think* they would have foreseen such a result. The fact is that common crops pay better now than anything else, provided you can only raise enough of them per acre. Stick to what you understand, and let those who have a fancy for novelties try them. There are enough farmers, so called, who wish to make money easily and rapidly, without you and me adding to the number."

In presenting the above cut of Mr. George Campbell's French Buck "Matchless," as a type of the Merino sheep, our object is to enforce the remark of Prof. Harris that "a farmer should think for himself and not be influenced too much by outside opinion." It is an old proverb that all changes are not improvements, and it would be well if more of us would heed the admonition to "stick to what you understand." New England farmers understand the management of Merino sheep much better than they do that of the larger coarse wooled sheep of England, which attained its perfection with the introduction of turnip husbandry into that country. These breeds it is true succeed in Canada, but there they are in the hands of those who were brought up in the old country, of men who "stick to what they understand."

If American breeders of the Merino sheep have made mistakes,—if they have produced too much oil or too many wrinkles—it is their own fault and not that of this invaluable animal. These mistakes should be corrected. Such is the wonderful plasticity of sheep in the hands of the skilful farmer that Lord Somerville, an English writer, once said that a breeder "may chalk out upon a wall a form perfect in itself, and then give it existence." Our breeders "chalked out" a heavy fleece, and they have succeeded in "giving it existence"—heavy not only in "grease," but heavy in cleansed wool, as has been shown by repeated experiments — the unprecedented amount of nine pounds and three ounces of cleansed wool having been reported as sheared from a single sheep in New York, the growth of eleven months and twenty-one days. They may chalk out other excellencies and expect to realize them with equal success.

While, therefore, we are making the acquaintance of new breeds of sheep, and learning the art and mystery of their management, let us proceed cautiously, and without permitting familiarity to breed contempt for our tried friends, the Merinos, which have added so largely to our individual and national wealth and comfort. In one word, if we must have a coarse-wool fever let us tone it down to a mild type.

For the New England Farmer.

"SMALL-POTATO" PREMIUMS.

Agricultural exhibitions are designed to be a mutual benefit,—consequently each class, or article should receive encouragement in proportion to its importance to the community.

At the close of our Vermont Agricultural Fair I remarked to some of the directors that a single premium of only *one dollar* was a poor inducement for five or six growers of choice seed potatoes to bring in their samples, have some of them pocketed, and the rest badly bruised, or guard them for three long days. I was met by the reply that I was doing well enough; that men who sold potatoes for 50 cents or $1 per pound had no right to complain.

A glance at our premium list shows that $23 in premiums are paid for the three best traces of seed corn; $12 on sugar; $22 on butter; $25 on swine; $157 on sheep; $40 on flowers and house plants, and $500 on horses, exclusive of "purses." According to the government valuation in 1864, all the horses in this State, over two years old, were worth $2,895,533; according to the estimate, the crop of potatoes raised the same year, was worth $3,195,237, or $299,704 more than all the horses in the State, although the horses were the crop of at least three years.

It seems, then, that an interest considerably the smallest has five hundred times more encouragement than the other, which is larger, and of proportionate importance to both grower and consumer. Potato raisers represent one of the most important agricultural interests in New England. They are the producers of an article of diet, without which Ireland starves, and America looks emaciated. They pay the Society their share of money, and cost it nothing, comparatively. Although the society has never paid us our share, we will say nothing about the arrears and forgive them cheerfully all their past transgressions, if they will but play *fair* and show *fair* play hereafter. We ask no part of the $500 paid on horses, nor the $157 paid on sheep. No; we will help pay both, but we very respectfully ask a sum (divided, as the society may determine, between the three or four best fields, and several best varieties, &c.) equal to what the horses and sheep annually *eat* out of the treasury of the society while on exhibition. Who can say that this is an unfair proposition or an unjust claim. We claim it.

O. C. WAIT.

West Georgia, Vt., Nov. 10, 1868.

WHORTLEBERRIES.—A writer in the *Prairie Farmer* thinks the cultivation of whortleberries would be more remunerative than strawberries. He says, bushes set one foot by three, yielding half a pint to a bush, would yield 95 bushels, worth $5 per bushel, or $475 per acre; and once set, they would be a permanent institution. They might be grown on land fit for little else. A successful experiment, though on a small scale, would be far more valuable than a mere suggestion.

APPLES.—In many parts of New England the apple crop is more abundant than it has been in any year for some time, but as it is quite short in many sections of the country, the fruit will be wanted at good prices. In New Jersey, Maryland and Pennsylvania, apples as well as peaches, have been a complete failure.

TO CURE CORNS.—The corn should first be well softened by soaking the foot in warm water, and as much of it removed by a sharp instrument as can be done without pain. Then apply over the surface a very small quantity of pulverized nitrate of silver, and cover it with a piece of linen or lint, in order to keep it in its place. After twenty-four hours, the foot may be soaked again, and that portion of the corn which has become blackened and disintegrated by the caustic removed by scraping, or with a knife. Repeat the operation till a cure is effected.—*Jour. of Chemistry.*

Youths' Department.

A LITTLE GOOSE.

BY ELIZA S. TURNER.

The chill November day was done,
  The working-world home-faring;
The wind came roaring through the streets,
  And set the gas-lights flaring,
And hopelessly and aimlessly
  The scared old leaves were flying;
When, mingled with the soughless wind,
  I heard a small voice crying.

And shivering on the corner stood
  A child of four or over;
No cloak nor hat her small, soft arms
  And wind-blown curls to cover.
Her dimpled face was stained with tears;
  Her round blue eyes ran over;
She cherished in her wee, cold hand
  A bunch of faded clover.

And, one hand round her treasure, while
  She slipped in mine the other,
Half scared, half-confidential, said,
  "O please, I want my mother."
"Tell me your street and number, pet;
  Don't cry; I'll take you to it.
Sobbing, she answered, "I forget;
  The organ made me do it.

"He came and played at Miller's step;
  The monkey took the money;
I followed down the street, because
  That monkey was so funny.
I've walked about a hundred hours
  From one street to another;
The monkey's gone, I've spoiled my flowers;
  O please, I want my mother!"

"But what's your mother's name, and what
  The street? Now think a minute."
"My mother's name is Mother Dear;
  The street—I can't begin it."
"But what is strange about the house,
  Or new, not like the others?"
"I guess you mean my trundle-bed—
  Mine and my little brother's.

"O dear, I ought to be at home,
  To help him say his prayers;
He's such a baby, he forgets;
  And we are both such players;
And there's a bar between, to keep
  From pitching on each other,
For Harry rolls when he's asleep—
  O dear, I want my mother!"

The sky grew stormy, people passed
  All muffled, homeward faring.
"You'll have to spend the night with me,"
  I said at last, despairing.
I tied her 'kerchief round her neck—
  "What ribbon's this, my blossom?"
"Why don't you know?" she smiling said,
  And drew it from her bosom.

A card, with number, street, and name!
  My eyes astonished met it;
"For," said the little one, "you see
  I might some time forget it:
And so I wear a little thing
  That tells you all about it;
For mother says she's very sure
  I would get lost without it."

"FATHER," said a cobbler's lad, as he was pegging away at an old shoe, "they say trout bite like everything now." "Well, well," replied the old gentleman, "stick to your work, and they won't bite you."

[Copied by permission from *The Nursery*.]

THE RIDE TO BOSTON.

"Coach all ready for Boston!" shouts William as he climbs up to the driver's seat, and pulls hard at the reins, and cracks his whip. You see the coach, do you not? but where are the horses? I think there must be some; for it seems to take all William's strength to hold them in. It is hard work to drive a stage-coach.

Mary and her little dolly are the only passengers inside. Dolly's health is poor, and her mamma is taking her to Boston to see the doctor. Mary has on an elegant bonnet, which she found in a bandbox in the garret. I hope it does not make her feel proud.

Rachel thinks it much nicer to ride on top of the coach, where she can have a fine view of all the places they pass through. She has her mother's parasol, which will keep the sun from burning her.

James and Harry are on behind. I wonder if William knows they are there. If he does, I think he is too kind-hearted to drive them off, even though they have no pennies with which to pay for a ride.

Frisk barks at the coach, as dogs are so fond of doing; and little Mary tries to climb up by her brother William's side. She does not want to be left behind this fine day, when all the boys and girls are going to Boston. Look out, little Mary, and do not get run over.

"I do not believe they are going at all," says my little Margaret, who looks over my shoulder; "for see, the coach has only one wheel, and that is off! They are only playing, just as I do on the old coach back of the barn."

What do you think of it, little reader?

L. B. H., *in Nursery.*

FEEDING THE PIGEONS.

Some years ago a man left some money to the city, directing in his will that at two o'clock every day, in one of the public squares, all the pigeons should be fed. Now, perhaps, you may think that pigeons do not know how to count, and cannot tell the difference between two o'clock and four o'clock, or between a quarter before two and a quarter after two. Well, I do not suppose that they can tell the time by looking at the large clock, or that they can count; but this I know that they can tell when their dinner is ready as well as any of the children who read this paper. A large bell, and it is a very large one, strikes the hours, and a smaller bell strikes the quarters. Thus the little bell says one, two; then the great bell says one. That means two-quarters after one, or half-past one. By and by the little bell strikes one, two, three, and the big bell strikes one: that means three-quarters after one, or, quarter before two. But pigeons do not mind that at all. In a little while the small bell says one, two, three, four. Then I saw crowds of pigeons coming in all directions, over the houses, through the streets and lanes, and by the time the big bell had struck one, two, a great number had collected, and they kept coming for about a minute. After they had picked up their dinner, they flew away, and paid no more attention to the big bell or the little bell, although they kept on striking the hours and the quarters just as before. No more pigeons came until two o'clock the next day. Can any of the children tell how the pigeons know when the clock strikes two? And are the little readers of this true story as punctual to their duties as these pigeons?—*Child at Home.*

AN INSECT SAMSON.

Every one who has taken the common beetle in his hand knows that its limbs, if not remarkable for agility, are very powerful; but I was not prepared for so Samsonian a feat as that I have just witnessed. When the insect was brought to me, having no box immediately at hand, I was at a loss to know where to put it until I could kill it; but a quart bottle full of milk being on the table, I placed the beetle for the present under that, the hollow at the bottom allowing him room to stand upright. Presently, to my surprise, the bottle began to move slowly, and glide along the smooth table, propelled by the muscular power of the imprisoned insect, and continued for some time to perambulate the surface, to the astonishment of all who witnessed it. The weight of the bottle and its contents could not have been less than three pounds and a half, while that of the beetle was about half an ounce; so that it readily moved a weight 112 times exceeding its own. A better notion than figures can convey will be obtained of this fact by supposing a lad of fifteen to be imprisoned under the great bell of St Paul's, which weighs 12,000 pounds, and to move it to and fro upon a smooth pavement by pushing within.—*Prof. Goss.*

Seeing is Deceiving.—Here is a row of ordinary capital letters and figures:

S S S S X X X X Z Z Z Z 3 3 3 3 8 8 8 8

They are such as are made up of two parts of equal shapes. Look carefully at these and you will perceive that the upper halves of the characters are a very little smaller than the lower halves—so little that an ordinary eye will declare them to be of equal size. Now turn the page upside down, and without any careful looking you will see that this difference in size is very much exaggerated—that the real top half of the letter is very much smaller than the bottom half. It will be seen from this that there is a tendency in the eye to enlarge the upper part of any object upon which it looks. We might draw two circles of unequal size, and so place them that they should appear equal.—*Once a Week.*

To Boys.—Horace Mann talked to the boys in this way: "You are made to be kind, generous and magnanimous. If there's a boy in school who has a club foot, don't let him know that you ever saw it. If there's a boy in school with ragged clothes, don't talk of rags in his presence. If there's a lame boy in school, assign him some place in the play which does not require much running. If there's a dull one, help him to get his lessons."

THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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MONTHLY.

SIMON BROWN, } EDITORS.
S. FLETCHER,

FEBRUARY AND ITS OPPORTUNITIES.

Much has been said of the brevity of this last winter month, and of its changeable aspect; its fierce winds and drifting snows; its sloppy roads and glittering ice, all following each other in rapid succession. Such is usually its true character, and to a mind unoccupied would undoubtedly prove cheerless, tedious and long, although the shortest of all the months.

To the farmer, however, who has a lively interest in his occupation, and who is in the enjoyment of good health, no day or month in the year seems too long. He feels responsible for the well-being and progress of the family around him, and is always solicitous to secure whatever will prove interesting and profitable to those of his household who are in great measure dependent upon him.

Then there is another class of beings equally dependent upon his skill and care,—the faithful animals that labor for him, and feed and clothe him. But for him the snows of February would prove their winding sheet. With these domestic duties devolving upon him, with all their changing details from day to day, there is little room for feelings of a desponding nature, or for discontent with his lot. The gratitude of kindred, the grateful recognition of his animals when he meets them, together with the consciousness of duties well discharged, bring a perpetual sunshine to the soul, whether *February* rushes by in the grandeur of storms of wind and snow, or moves on in the gloom of clouds or dripping rain.

What a change has taken place in a great many particulars in farm life, within the recollection, probably, of many who read these lines. Fifty years ago, not only was there less thought of progress on the farm, but, also, less thought of improvement of the mind. Many of the school-houses then were low, unpainted, gloomy structures, perched upon some bleak hill, or isolated on some barren plain. The searching winds swept through the loose underpinning and ample cracks in the floor, among the shivering limbs of the boys and girls, or tore away clattering boards as they went wailing through them!

The inside of the house was little better. A huge fire-place often of stones, full two feet deep and five or six wide, with a throat long and wide enough to admit a yearling steer, was a contrivance by which to warm a room sufficiently for little boys and girls to sit and study in, four hours at a time! The seats and desks were in exact keeping with other arrangements; close together, hard, narrow, and just as well calculated to afford comfort as the fire-place was to afford warmth! As to convenience they had none, and getting in and out of them could only be accomplished by that wonderful flexibility of limb which especially belongs to boys and girls. The books were few and meagre. The *philosophical* apparatus was a huge poker and pair of black tongs, both fashioned on the smith's anvil in the village. Out-of-doors, an abundance of gymnastic exercises was obtained through the agency of certain ponderous wooden shovels which were constantly put in requisition, in order to afford ingress and egress to the door of the house.

The pursuit of knowledge under such circumstances, or of religious instruction, was certainly a hard, if not a painful one. To sit two hours in a room surrounded on all sides by large, and loosely fitting windows with the thermometer vibrating about zero, if not positively falling below, and where the genial influences of a wood or coal fire had *never* been felt, would now be considered a hardship that could not be endured. Yet such were the circumstances under which many of those now living grew up. It is not necessary to write out the contrasts. They are afforded in nearly every church and school-house in the land. With their neatly fenced yards and shade trees, they are as attractive outside as they are convenient and comfortable within.

If the blessings which these may confer are not improved and appreciated, woe will come to our goodly land.

It is in *rural life* where they will be valued most, and it is to *rural life* that we must look for that purity and patriotism which will preserve our civil and religious freedom and hand them down to generations yet unborn.

Then there are other changes in farm life no less striking, and which greatly affect the prosperity of the farmer. Fifty years ago, the winter care of farm stock was looked upon by many as a sort of stern necessity imposed upon the farmer, from which no corresponding compensation was derived. Now, all this is plainly seen to have been a mistake, or rather, the want of a proper knowledge of the business in which he was engaged. We have heard persons boast of *wintering a cow on one ton of hay!* It was said with an air of gratulation,—a feeling of triumph in achieving such a result in economy!

The policy seemed to be to keep the stock at the lowest possible cost, take it through the winter, and get it into pasture in the spring, on its own legs! Under such a course, the cattle and sheep came out lean and lousy, having made little or no growth, and the cows in calf, weak and in miserable condition to feed the young when dropped. The swine had long legs and long noses, and could run like race horses so long as the little strength they had held out. The colts were poor and frowzy, and had about as much spirit as a sick hen; walked cross-legged when "stirred up," and with their ears flopping about their eyes.

Under such treatment, it was no uncommon occurrence for a farmer with six cows, a horse, a colt or two, three or four swine and a dozen sheep, to lose one or two from each class by disease, by accident occasioned by weakness, or from some other cause growing out of mismanagement. All this "has changed," now. Two tons of good hay is not thought too much for the winter-feed of a cow, even if roots and a little grain are occasionally added. It is supposed to be economical to keep all stock warm, clean, their apartments ventilated, and their feed given to them at regular times. No one now doubts that all the animals should be kept continually growing in winter as well as summer, and if possible in condition fit for the shambles at all times. In short, true economy, it is believed, consists in liberal feeding, cleanliness, regularity, mild temperature and kind treatment in every respect.

A brief retrospect of the past, then, in this good month of *February*, and a fair comparison of the past with the present, will present numberless encouragements to all to go on with cheerful hearts and a new courage to improve both the soil and the mind.

THE TARIFF ON WOOL.—An extensive and very experienced wool broker in New York—one of the large hearted and liberal men in that business—thus writes us:—"Sheep husbandry was never on as good a base as it is now. In Europe fine wool was never as cheap—fair Mestiza being at five to five and a half pence, and Cape at six to seven pence. Where would our wool growers be if not protected? The stock of fine clothing wool in Europe is terrific."—*Rural New Yorker.*

USE OF BONE AS A FERTILIZER.

SOME satisfactory experiments have been made during the past two or three seasons in the use of bone as a manure, while others have failed to give that satisfaction which was expected. But in the hands of careful and patient persons, many results of the use of bones have thoroughly satisfied some, who entertained sincere doubts of their utility, that bones are an exceedingly valuable stimulant of vegetable life, and that every pound of them not needed in the arts ought to be preserved and properly prepared for use on the soil.

We do not mean by this that the flour of bone, or bone in any form, is a universal panacea that will bring a crop on any soil and under all circumstances. By no means. Crude bone is extremely slow in its action,—but when reduced to flour, it is so active as to require great care in its use, as it will soon bring on fermentation in the coarsest materials that we convert into manure. This is a great merit in it, as it enables us to prepare fine composts for applying to the hill; this helps us essentially in bringing crops forward rapidly, in such cold and late seasons as the last planting season was. Some of our correspondents have rather undervalued the merit of bones, we think,—and so all other substances used as manure have been. We can show the reader acres of land, sufficiently dry for cultivation, which was liberally dressed with excellent barn manure, and *without the slightest visible effect!* Who can tell why? The *true* value of any fertilizer cannot be determined by any single experiment.

The bones of animals are composed of an animal substance called *gelatine*, and certain inorganic matters. By calcination, bones are deprived of their animal matter, but the action of fire affects them essentially, in no other way, a bone after calcination, being, in every material respect, precisely the same, so far as its inorganic properties are concerned, as it was before. The organic substances contained in the bones of the mammalia, and of man, may be assumed, on an average, to be 32 to 33 per cent. Of this, somewhat more than one-half is nitrogen. The remaining 67 or 68 per cent. are of phosphates (52 to 57 per cent.)

Berzelius gives the following analysis:—

	Bones of the Ox.
Animal matter, (gelatine)	33.30
Soda and common salt	2.45
Carbonate of lime	3 85
Phosphate of lime	55 45
Fluoride of calcium	2.90
Phosphate of magnesium	2 05
	100.00

Prof. *Johnston* states, without qualification, that 100 lbs. of dry bone dust add to the soil as much *organic* animal matter as 300 to 400 lbs. of blood or flesh, and they add at the same time two-thirds of their weight of inorganic matter, consisting of lime, magnesia, soda, common salt, and phosphoric acid (in the phosphates)—all of which must be present in a fertile soil, since the plants require a certain supply of them all at a certain period of their growth. These substances, like the inorganic matter of plants, may remain in the soil and may exert a beneficial action upon vegetation after all the organic or gelatinous matter has decayed and disappeared.

Some have supposed that the fertilizing power of bones is derived mainly, or in a great measure, from the nitrogen contained in the gelatinous substance of the bones; but we believe that experience has demonstrated that that calcined bones, which have been deprived of their gelatine by the action of fire, have a much more immediate and potent effect upon vegetation than bones in their crude or natural state. The presence of the nitrogenous constituents of the bones is therefore to be regarded as an obstacle to the rapid and genial manifestation of their fertilizing qualities.

As to the phosphates of bones, it may be proper here to remark, as in the case of humus, they can only become capable of being assimilated by the vegetable system after the complete destruction of the organic substance by putrefaction.

The use of bone manure, as well as of ground shells—both of the "Crustacea" and "Testacea,"—will yet become more common in this country. The popular mind is already awake to the importance of according a greater degree of attention to the fertilization of soils, and the feeding of crops; and in this new manifestation of enterprise we have a flattering guarantee that agriculture, so long kept below its proper grade in the arts, is to assume its legitimate position, and produce its legitimate results.

The farmers of England have long been

aware of the immense benefits to be derived from the use of bones upon their soils. They have carried tens of thousands of tons from our shores, swept over the broad pampas of South America, and even gleaned the battle field of Waterloo for the bones of every dead man and beast that could be found upon it! Under a judicious system of preparing and applying bones, their crops—instead of falling off, as they usually have in other countries—have actually increased in a material degree. It has become proverbial there, that "*one ton of German bone dust*, saves the importation of *ten tons of German grain*," and that agriculture is thus rendered, in a considerable degree, practicable without cattle breeding, grazing, &c. Let us not, however, become so attracted by the bones as to forsake any of our good old practices of having a barn full of stock to feed in the winter, and to graze upon our beautiful hills in the summer.

Many persons have undoubtedly been disappointed in the use of bones as a fertilizer, from a want of experience in using them. They ought not to be applied to the crop in a crude condition. Even when converted into what is called *superphosphate*, or when the bones are softened by steam, dried, and ground to a powder, they ought to be mixed with muck or loam and slightly fermented before being applied to the soil. Add five or six times their bulk of soil or muck, and then turn over the mass and thoroughly mix it some weeks before using it. This is especially necessary where it is to be used in the hill, and we have no doubt that wheat, barley and oat crops would receive much more benefit from a given amount of bone applied in this way, than if it were used without such preparation.

THE OLD MIDDLESEX SOCIETY.

The Trustees of this time-honored and influential Society held their annual meeting at the Middlesex Hotel, in Concord, on Friday last. Nearly all the Trustees were present, and manifested a most lively interest in the business before them. The President of the Society, JOHN CUMMINGS, Esq., of Woburn, presided. A vote was passed directing a building committee to proceed at once and erect a substantial building according to a plan adopted last year. It is to be *one hundred and thirty feet long and seventy feet wide*. Its form will be unlike any building we have ever seen devoted to such objects; and we think will admirably subserve the purposes for which it is designed.

Before taking up the various branches of the premium list, several committees were appointed to report what changes it seemed desirable to make in them. On going through the items, *seriatim*, animated discussions frequently sprung up, and some of them were pretty thoroughly sifted. In most cases, at least on the more important items, the premiums were considerably increased, and some of them nearly doubled.

Some new premiums were added, one of which offers a premium of $20 for the best example in thorough drainage on not less than one acre of ground. Another is a premium of $15, and one of $10, for the best vegetable and fruit garden on any farm of not less than twenty acres. This is an admirable movement. It will tend to the care and cultivation of better gardens *on the farms*, where they have been greatly neglected, and to the introduction of fresh and healthful fruits and vegetables on the tables of the farmer, where a meagre supply only has been enjoyed. The President made some excellent remarks while the motion was pending, clearly showing that the *moral* influence of this movement would be still more valuable than the physical, and that it would gradually lead to that neatness, order and embellishment about the farm, that would give a new aspect and tone to rural life.

Many of the Trustees are still short of middle life, and are full of zeal and activity, and possess ample means to aid on the grand work.

The society now is in its *seventy-fifty year*, and promises, to-day, to exert an influence in the coming year greater than it has ever exerted before. The spirit manifested in this meeting is encouraging, and will work out valuable results.

—At the annual meeting of the Hampshire, Franklin and Hampden, Mass., Agricultural Society, Milo J. Smith, Northampton, was elected President; Elnathan Graves, of Williamsburg; Andrew T. Judd, of South Hadley; Isaac Parsons, of Southampton; Samuel L. Parsons, of Northampton, Vice Presidents; A. Perry Peck, of Northampton, Secretary; H. K. Starkweather, of Northampton, Treasurer; Oscar Edwards, of Northampton, Auditor.

For the New England Farmer.

THE GARDEN IN FEBRUARY.

Little can usually be done in the garden during this month, except preparing for the coming season's work; and here much may be gained by judicious planning, and by doing what may be as well done now as when other work presses. The long evenings and comparative leisure of winter are favorable for reading and social visiting among the farming community, embracing attendance on the meetings of the Farmer's Club. For the young, one of the most interesting and useful, yet one of the most neglected branches of study, is astronomy. The ancient farmers were directed in their operations, first, by observing the course of the moon. Finding this an imperfect guide, they were led to observe what stars began to emerge, as the rays of the sun subsided, and what ones appeared above the horizon during the interval between evening twilight and morning dawn. By numerous and attentive observations, they traced out the course of the sun and stars, and by a stretch of the imagination they grouped the latter, giving to each constellation the name of some animal which the stars were fancied to outline; and also named the principal stars in each group or constellation. By continued study the whole heavens were mapped out and named. By observing what stars and constellations came overhead at certain hours, they were enabled to make the true divisions of the seasons, measuring the exact length of days, weeks, months and years, and fixing their bounds. And now we find that certain stars and constellations come to the meridian at set times. For instance, the following constellations arrive on the meridian in February. The Lynx, Gemini, Canes, Major and Minor, and Monoceros or the Unicorn. A history of each and all of these constellations, and the principal stars of which they are composed, as laid down by the ancient poets and mythologists, might be interesting, but I must content myself by calling attention to it. It may be found in works that every town or district library should contain.

Cold Frames.—See directions given last month. Plenty of air on mild days, and protection from sudden changes of temperature, comprise the duties here.

Cuttings and Scions.—Gooseberry, currant, and grape cuttings, and scions for grafting, may yet be taken when the wood is not frozen. Make careful selections, recollecting that health, vigor and increased productiveness are of great importance, and be sure they are true to name.

Grape Vines.—If pruning has been neglected, it should be done the first warm spell, when unfrozen. Pruned when the wood is frozen, they bleed in Spring and Summer.

Fences.—Recall what was said of broken gates, and poor fences a year ago; good fences make good neighbors, and frequently save valuable trees, vines, &c., from intruders.

Fruit stored in the cellar and fruit room should be looked over, and all specked or decaying specimens selected out and used.

Horseradish.—A thaw will enable you to get at, and dig it. If more is dug than is used at once cover it with dirt in the bottom of the cellar. Grated and bottled, with a little salt and water added, it makes a healthy, excellent condiment.

Manure is the basis of all good gardening, and its proper application the secret of success in growing vegetables, &c. Save and collect all that can be turned to advantage into fertilizers for the soil. House slops, suds from the wash tub, the privy vault, and all refuse of a perishable nature, composted with muck or loam, will make good manure for the garden. Save all the ashes; wood ashes contain all the elements that most vegetables need in their growth.

Pea Brush and Bean Poles.—Now, while getting up the year's supply of wood, is a better time to provide these in sufficient quantities, than to wait till the sap begins to run.

Protection to vines, plants, &c., should not be removed, even if a warm spell does occur. Protection is not merely on account of the severe cold of our climate, but to preserve from the effects of sudden alternations of heat and cold, in spring. If any covering has become displaced, it should be carefully replaced at once.

Shrubbery and Trees.—Look to them after a heavy fall of snow to see that they are not borne to the ground, broken down, &c. Shrubbery may be pruned, if judiciously done, in mild weather.

Seeds.—Last year I gave a select list of garden seeds, to which I would call attention. New varieties are constantly being introduced, some of which may be tried. Last year I tried the Mexican and the Trimble Sweet corn, and find them so good that I shall substitute them for other varieties. Both are earlier than the Evergreen, and I think Trimble's is much better. Overhaul and examine all seeds, and if a deficiency exists, order at once from some reliable grower, like Gregory, of Marblehead; or dealer, like Hovey & Co., of Boston, who advertise in this journal. Better be at considerable trouble and a little extra expense, to get good seed than to take those of doubtful quality as a gift. The age of seeds affects their quality. Some will germinate only while fresh, while others will retain their germinative capacity for several years, depending largely on the care given them. Carrots, onions, parsnips, and salsify, cannot be relied upon after they are more than one year old, while melons and cucumbers are improved by age, and retain their vitality for ten years or more. The only safe test of germination of any seed is to try it, by placing it in constantly damp moss in a warm place, or in a box of soil kept moist and warm. As a general thing the harder and more solid the seed the longer it is in germinating; there being quite a difference in time with different varieties, some germinating in one or two days, and others requiring one to two weeks.

Wm. H. White.

South Windsor, Conn., 1869.

For the New England Farmer.

KICKING COWS.

In your issue of the 26th, "E. L." asks a remedy for a kicking cow. I have not seen our practice recommended, and wish he would try it, and report progress through the Farmer, for the benefit of those similarly afflicted. Put the cow in stanchions. Take a strap of sufficient length, with a buckle or ring at one end, and pass it around her body just back of the shoulder; then stand at as safe a distance as possible and slip it back to the hips and udder, and tighten the strap with a firm pull, which may be done without the least danger. This renders the animal powerless to kick. Then proceed to milk as though nothing had occurred, being assured that the cow cannot lift a foot into the pail, if the work has been properly done; if not, tighten the strap two or three inches more. After a few days the strap may be applied looser, and according to our experience may soon be finally dispensed with.

Believing as we do that nine of every ten kicking cows are made so by accident or mismanagement, we would enjoin, as of the utmost importance, the exercise of kind and gentle treatment in all cases. I think the most fruitful source of mischief is neglecting cows previous to their "coming in;" allowing udders to become pressed and inflamed. Especially is this the case with heifers, which like all other young milking animals, secrete milk much longer before it is needed for their young, than older animals. This early secretion, sometimes natural and at others induced by milk-producing feed, frequently causes the udder to become inflamed and very painful to the animal, and alarming to its owner, who may have inherited a prejudice against previous milking, and has no faith in, or fancy for bathing; consequently he resorts to the prevalent remedy of letting the calf "take out the fever." This accounts for the frequency of obstruction in the milk ducts, or a partial or entire loss of the udder. It accounts also for the numerous haggard looking heifers with lean calves, made fierce by hunger, tugging at inflamed and swollen udders, "taking out the fever." As there is little else for them to take, they commence a series of pulling, biting and butting, which fairly forces the mother, though possessed of more than human fortitude, to repel the brutal attacks, by scores of half involuntary but desperate kicks, which are repeated of course when the milking commences.

The kicking heifer must be "broke or she is spoiled," meditates the milker as he seats himself with elbows distended just in time to receive a well directed kick over both arms, completely wiping him out, pail and all. The frightened animal of course flies from the wreck, and leaves the milker to gather himself up. Confused, mortified and enraged, he starts in pursuit, perhaps hurling brickbats, and stones at her most vulnerable points. If he succeeds in getting her into the stancheons, she receives cruel kicks, and thundering blows perhaps from a three-legged stool.

Thus commences the history of many an inveterate kicker, which, becoming desperate, determines to fight it out on that line. This may seem to be exaggeration, but who that lives in the country is not familiar with such disgraceful cruelty? I knew a man who on being kicked from his stool, sprang with an oath and an uplifted cudgel at his cow, which instantly broke from the stable, ran across the floor, and clearing the girt, jumped to the bottom of a deep bay, to avoid her pursuer, who had to remove the solid double boarding to get her out. I am acquainted with a man, who, in a fit of rage, after hastily looking for some weapon, caught the tail of the offending cow in his teeth, and with a fiendish grin nearly severed it and left it bleeding, saying with a curse, "now I guess you will mind!"

O. C. Wait.

West Georgia, Vt., Jan. 1, 1869.

CROSS-CUT SAW.

Ten years' experience in the use of cross-cut saws, has proved to me that I have been working under many disadvantages, until recently. My wish is for all to know the great advantage of a plan which I pursue. Take a new saw that has never been set, place it between two boards, cut to fit the saw, clamp it tight on a bench or in a vise; take an iron wedge, file one corner to suit the set of the tooth when finished, then take a small hammer, hold the wedge with the left hand, strike the tooth lightly with the hammer until at the right place; then turn the wedge on the opposite side, and on the next tooth, and set it in the same way; now then you reach the third and most important tooth in the saw—leave it perfectly straight; pass on to the fourth tooth, set it as you did the first, turn the wedge, set the fifth the other way; leave the sixth tooth straight; and so on until you finish.

Now take your file, dress the two teeth as you do the common saw; the third file perfectly straight and square—leaving it about one-twentieth part of one inch shorter than the others. Continue in that way until you finish, and you will find it will cut twice as fast as the old way practiced by most farmers.—*Southern Cultivator.*

FARMING IN NEW BRUNSWICK.

In a very business-like and intelligent report by Arch'd Harrison of the Sunbury, New Brunswick, Agricultural Society, published in the Fredericton *Colonial Farmer*, we find some statements which may interest our readers, especially as much less is known of farming at the far "East" than in most other parts of the North American continent, either West or South.

It appears that although this society holds an annual Fair, all its available funds are expended in the purchase of stock, seeds, &c. Animals thus bought by the society are sold to invidual farmers, on condition that they shall be kept in the Province a specified number of years. During the past year the society has introduced into the district of Sunbury, one pure bred Durham bull and a heifer calf, four Leicester and two Cotswold rams, one grade calf, four Berkshire boar pigs and five sows. Twenty bushels of choice seed wheat were also procured and sold by the society. Might not our own county societies do something of this kind to the advantage of many individual farmers who have not the time or means to hunt up and buy such animals or seeds as they would be glad to make an experiment with, if they could procure them on favorable terms, as to price and time of payment?

On account of short seasons, the district of Sunbury is not well adapted to grain or roots, but is good for grass. The average crop of hay the past season is stated at one and a half to three tons per acre. Still fair crops of wheat, oats, barley, buckwheat, Indian corn, peas, beans, potatoes, turnips, carrots, mangolds, blood beets, &c., are raised. The Secretary remarks:—

> Barley is not sown to any great extent. In some instances the past season, the crop was good; in others very light; from 30 to 50 bushels per acre. Of Indian corn there is but little planted, although more last year than the year previous. Returns are good, both in quality and quantity. The potato crop in almost every instance was good; far superior to that of last year. Returns from 200 to 400 bushels per acre, according to variety. The turnip crop the past season was in a great many instances a total failure. Some fields had the appearance of a fair crop, but when pulled, nearly 25 per cent. were diseased. Stock potatoes are in a measure supplanting them. Mangold Wurtzels are also on the decrease; they do not seem to grow as formerly, and are extremely exhausting to the soil. The raising of blood beets is on the increase. They are superior to the Mangold Wurtzel for feeding; the returns being fully equal. Carrots, although a very troublesome crop, are really a paying one; the returns from 500 to 600 bushels per acre.

At the annual exhibition of the Society, last fall, there were 317 entries; an increase of nearly fifty per cent. over last year. The show of sheep was hardly equal to last year, owing to a wet and otherwise unfavorable season. The same causes may have had more to do than is generally supposed in producing the present stampede among the fine-wool growers of the United States. The wheat purchased by the Society this year was eagerly bought by farmers, and the crops have been satisfactory. It is expected that a much greater breadth will be sown next season. In only two instances had this year's crop been threshed, showing in one case, returns of 19 bushels and in the other 16 bushels from one of sowing.

SUNFLOWERS *vs.* MIASM.—The *Prairie Farmer* has an article upon sunflowers and other quick growing plants which present a large surface of leaves and flowers to the atmosphere, as a means of absorbing and neutralizing malarious miasms. Several interesting facts are quoted in favor of this idea, and the question is asked if a belt of sunflowers around the Eternal City would render it secure from the air coming from the Pontine Marshes, as its walls of stone protected it from the invasions of its enemies? Here is a new field opened for scientific investigation. It is commended to the attention of the friends of "Social Science."

For the New England Farmer.

REMOVAL OF THE CATTLE MARKET TO WILMINGTON.

I wish to call the attention of drovers and butchers to the best location for the cattle market that there is in Massachusetts. This, I think, is at the junction of the Boston and Maine, and the Salem and Lowell railroads, in the town of Wilmington. Near this junction there are hundreds of acres of land that can be bought for less than $25 per acre, and a great portion of it is excellent land for grass, when cultivated and manured.

Wilmington may be compared to a cart wheel lying horizontally, having almost an entire circle of cities for its rim, and railroads for its spokes. Establish the cattle market here, which would make the hub, and the wheel would be complete. The drovers are now paying a large tax for yarding their cattle and sheep. At this place the owners of the land could well afford to give the use of the yards for the manure, as good stable manure cannot be purchased in Wilmington at less than $12 per cord delivered on the field.

The Northern and the Eastern stock could reach this spot one hour earlier than they can Cambridge. The Western cattle could come from Worcester to Groton Junction, and then over the Stony Brook road through Lowell to this place. The ride on the railroad for these cattle would be some longer, but they could be let from the cars right into the pens. Therefore it would take no longer to deposit them in the yards here, than it now does to deliver in the yards at Brighton.

The butcher occupying a stall in Boston market house, could take the cars on the Boston and Maine railroad, and arrive at this place in less time than is now required for him to go to the yards in Brighton. Butchers at Salem and Peabody can take the Salem and Lowell road, and arrive at this place in one-half the time now occupied in going to Brighton. Butchers at Nashua, Lowell, and Lawrence, Andover and Haverhill can leave their homes and arrive at this junction in one quarter of the time required for a journey to Brighton.

If the drovers wish to visit Boston, after selling their stock, they could step into the cars on the Boston and Maine road and arrive at Hay Market Square in Boston quicker than they can now go from Brighton by the horse cars to Boston.

A short distance at the northeast from this junction, is a large and beautiful swell of land, more than a mile in length, which overlooks thousand of acres of land on the west. This rise is now covered with wood, and the land can be bought for a very little more than what the wood is worth that is standing on it. When cleared it would make one of the most beautiful sites for a village that can be found in the State.

The cattle markets have built up Brighton and Cambridge, and the land has now become too valuable for cattle and sheep to stand or walk upon. The bellowing of cattle, and the bleating of sheep and calves is not a very pleasant sound to most of the residents in these villages, and their streets and sidewalks are so nice that cattle can scarcely be driven away from the yards without committing some damage for which the owner is liable.

As the market in these places has thus become a nuisance, and as real estate has greatly advanced, the butchers there might sell their property at a high price, and locate themselves at a much cheaper rate in Wilmington, where their slaughter houses could be so located with reference to the railroad track that the beef may be shifted from the hooks in the slaughter house, to the hooks in a car made for the purpose, without lifting a single pound, and one long car, properly fitted up, would take forty oxen from this place to Boston, quicker than one horse can take four oxen from Brighton to Boston in a wagon. Mutton, veal, &c., might be transported in the same way, and the expense could not be great. Much more might be said of the advantages of Wilmington as a cattle market, but if the foregoing shall direct public attention to the subject, my present object will be accomplished.

A. G. Sheldon.

Wilmington, Mass., Dec. 28, 1868.

Sale of Choice Stock.—A few week since we noticed the arrival in Canada of Short-horned and Jersey cattle, Cotswold and other sheep, Suffolk horses, &c., purchased in England by Mr. M. H. Cochrane, for his farm in Compton, C. E., at an expense of some $15,000 in gold. From his stock we learn that he has recently made the following sales:

To H. C. Burleigh, Fairfield, and G. G. Shores, of Waterville, Maine, his entire herd of Herefords, consisting of fourteen animals. The above won first class prizes in all their classes and the State Gold Medal at Rochester, N. Y., this season.

To A. R. Duncan of Towanda, Ill., one imported heifer, *Wharfdale Rose*.

To J. H. Pickrell, Harristown, Ill., the imported yearling bull, *Baron Booth*, of Lancaster, winner of first prizes wherever shown.

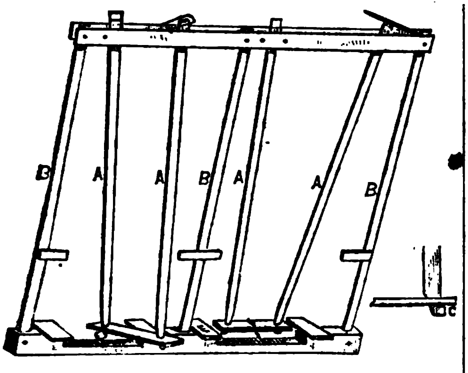
To A. I. Hallet, West Waterville, Me., one imported Cotswold ewe; one imported Oxford Down ewe; one imported Lincoln ewe, and one Cotswold ram lamb.

To E. G. Bedford, Paris, Ky., three imported Berkshire swine, one boar and two sows.

Cutting Timber to Last.—Mr. Skinner, an experienced farmer of Herkimer County, N. Y., recently stated before the Little Falls Farmers Club, that he always cut timber when it was frozen, in order that it might last a long time without decay. He was aware that other seasons of the year were recommended. He had tried all seasons and with a number of varieties of wood, and no timber lasted so well as that cut in winter when the timber was frozen. He said a hemlock stick used as a stringer for bridges would last longer when the bark was left on. Had observed it often, and gave as a reason that the bark kept the wood moist. He thought the best timber for sills, or for building purposes, was red elm, next in order was oak, white elm and red beach. For pins, the raves of wood sleds, and bolsters to wagons, there was no timber he preferred to red elm.

Remarks.—Thus "doctors disagree." We solicit the results of the experience of the readers of the Farmer as to the best season for cutting timber for seasoning and preservation.

Cheese.—In the year ending May 1st, 1867, there were 43,000,000 pounds of cheese exported from this country. The average price received by the factories was over 17 cents per pound in currency.



SAFFORD'S CATTLE STANCHION.

Most of our readers will recollect a cut and description of a Cattle Stanchion patented by Mr. Safford, which was published about a year ago, at page 69 of Monthly Farmer. This was regarded as a great improvement on our hitherto imperfect stable fastenings. But Mr. Safford still continues his efforts for further improvements, and has patented another device which differs from the first in being more readily applied to ordinary stanchions, and in being so constructed as to allow the animal to lie on either side, and to rise up with greater ease. Common stanchions may be readily changed into the improved ones by suspending the neck bars A A, in above cut, loosely in the top-piece, by cleats, at the top; connecting the lower ends of the bars with the yoke F, and attaching this yoke to the bed-piece with a chain of sufficient length to allow the lower part of the stanchions to swing and twist about freely. The bottom cleats E prevent side movement in case one animal is disposed to hook another. The three short cross-bars on B B B are to prevent cattle from crowding into the feeding place. C shows the manner in which the bars are fastened in the yoke, which is done by nailing leather around the projecting end of the bar.

For the convenience of the engraver the cut gives a diagonal view of the stanchions which at first sight may represent them as leaning. This is not correct, as the stanchions are perpendicular.

It being difficult to give a correct view or description of this invention, and as a practical test is more satisfactory than theory, Mr. Safford authorizes us to say that he will allow any farmer to make and use one stanchion as long as he pleases, without buying the right to use or make others. For further particulars address Larkin S. Safford, North Appleton, Me.

WHAT DRIVES THE ENGINE?

A year before his death, George Stephenson visited Sir Robert Peel, at Drayton Manor. Professor Buckland was of the party. One day, as they observed a train speeding along the valley in the distance, Mr. Stephenson said,

"Now, Buckland, I have a poser for you. Can you tell me what is the power that is driving that train?"

"Well," said the Professor, "I suppose it is one of your big engines."

"But what drives the engine?"

"Oh, very likely a canny Newcastle driver."

"What do you say to the light of the sun?"

"How can that be?" asked the Professor.

"It is nothing else," said the engineer. "It is light bottled up in the earth for tens of thousands of years; light absorbed by plants and vegetables being necessary for the condensation of carbon during their growth, if it be not carbon in another form. And now after being buried in the earth for long ages in fields of coal, that latent light is again brought forth, and liberated, and made to work, as in that locomotive for great human purposes."

BUYERS' RULES.

The force of habit is one of the most striking examples of human weakness. The full meaning of the word "force" in this connection, however, can be realized only by those who have battled against some bad habit in which themselves or those with whom they were associated have long indulged. A few months since, notwithstanding its obvious injustice, the attempt to perpetuate the very convenient habit of buying wool on "general principles," was made by influential parties. This excited a bitter contest between buyer and seller. But wool dealers are not the only ones who have attempted to enforce buyers' rules that had acquired the force of habit. In a report of a committee appointed by the State Agricultural Society of Virginia, to write a brief history of individuals who had effected improvements in the agricultural interests of the State, we find the following honorable mention, as a benefactor to farmers, of an individual who broke up an old rule or habit of the buyers of an important staple of the Old Dominion.

Tobacco, was formally sold by the note of the inspectors, which simply indicated the weight, and all that passed inspection was presumed to be nearly of the same value. The uniform price was twenty shillings Virginia currency, equal to $3.33⅓ Federal money, per hundred pounds. Mr. Benjamin Hatcher, of Manchester, (father of Mr. John H. Hatcher, in the Exchange Bank,) was the first to break through this rule, buying it at liberal prices, according to the quality and condition of the article, as well as the general state of the market.

For the New England Farmer.

EUROPEAN BASKET WILLOW.

Being one of the first to introduce into this State the European Basket Willow, and believing that when its cultivation is properly understood, it can be made not only one of the surest crops the farmer can grow, but also one of the most profitable, I have thought an article on this subject might not be unprofitable to the numerous readers of the Farmer.

The soil best adapted to the growth of the European Willow has been generally supposed to be a heavy, wet soil,—nearly every plantation which has come within the range of my observation having been set on meadow land,—but from experiments made on a variety of soils, I am satisfied that this is a mistake. To my surprise I have found them to make a better growth on a sand bank, than on a rich, wet meadow. They seem to make the best growth on a warm, rich, sandy loam, where either corn or potatoes would grow luxuriantly. On such soil they sometimes make a growth of ten feet in one season, and will make an averaged growth of six to eight feet; being very straight and slim, surpassing in quality anything I have ever seen imported. Our hot sun seems exactly adapted to its growth. During our hottest days in July, in a warm soil, they will make a growth of from three to four inches in twenty-four hours, while in a wet day they grow not more than one-half an inch.

To prepare the soil for a plantation it should be ploughed and planted two years with some crop which requires the land to be well cultivated; it should also be made rich enough to produce not less than fifty bushels of Indian corn to the acre.

In transplanting the willows, tops are preferred to roots; twigs about one-half an inch in diameter should be selected and cut from twelve to fifteen inches in length. As early in April as the weather will permit, the land should be well ploughed and furrowed three feet apart. In these furrows the cuttings should be set one foot from each other, not perpendicular, but on an angle of about forty-five degrees. The first year the land should be well cultivated. After this they require but very little attention except harvesting the crop.

The first years' growth should not be cut, but after the second years' growth, sometime between October and March, they should be cut as near the ground as possible. This crop is worth but little except to make cuttings for a new plantation; but after this, a valuable crop may be cut every year between December and March,—February being the best month, if the weather is not too cold and the snow is not too deep. No injury will occur to the roots if the crop is secured before the warm days in March start the circulation of sap. The canes should be bound in bundles of about fifty pounds each, and set in three or four inches of water. Sometime in May it will be found the bark will peal off very easily; they should then be stripped and sent to market.

During the past six or eight years, there has been a great demand for Basket Willow. It has been sold as high as eighteen cents per pound; but at six cents per pound, it yields a profit of not less than fifty dollars per acre. There is a ready sale for all that is grown and a very large quantity is imported. I have no willows for sale, nor time to answer any questions, except through the Farmer.

E. Hersey.

Hingham, Mass., Dec., 5, 1868.

Remarks.—The cultivation of the willow on a sand bank, or even on a warm, rich, sandy loam is a new idea to us. From our observation, as well as our reading, water and willows have become closely associated in our mind. They grow in wet places on our own farm, and wherever willows flourish we generally find them within reach of water. A late writer says that in England, where the white willow may be seen growing extensively in ten or a dozen counties, it is not grown on any but moist soil; in springy and wet situations, unfit for cultivation by reason of being too moist or wet, it may be found in quantity, but not on dry upland at all, except by the side of a ditch, or exceptionally wet places.

The common idea among cultivators of the necessity of "a heavy wet soil" for the growth of the willow is not only common but very ancient. Mr. Lowell in his recent poem, "Under the Willows," speaks of trees of that variety

——"that lean along the brink
Where the steep upland dips into the marsh."

And a much older writer than Mr. Lowell speaks of "the willows of the brook." It is with much pleasure, therefore, that we publish the foregoing statement by Mr. Hersey, of his success in cultivating the Basket Willow on upland. The value of his statement is enhanced by his well known caution about making any statement or recommendation which is not fully justified by his own practical experience or personal knowledge, or to which he is unwilling to affix his name. But his doing the latter should not subject him to a personal correspondence. Inquiries for further information from Mr. Hersey must be made through the FARMER.

For the New England Farmer.

SYMPATHY BETWEEN MEN AND ANIMALS.

There is a sympathetical relation existing between men and animals which is not sufficiently understood or studied by farmers and those who have the care and training of domestic animals. That there is a controlling power which man has over the lower orders of the animal kingdom is manifest to all. It is the decree of the great Creator that man should have dominion over the beasts of the field, the fowls of the air, and the fishes of the sea. There is naturally placed upon all animals the fear of man; so that, instinctively those in a wild state flee from him or slink away from his presence. There is a power in the eye of man, when fixed steadily, which causes even the the most fierce and savage beast to quail beneath it. There is a power and majesty in "the human face divine" that exerts a peculiar sympathetical and restraining influence upon every animal. It is the power, glory and majesty of mind over matter and brute instinct. But in order that this power may be felt and exerted in its full and legitimate manner it requires courage and calmness. It is the calmness and fearlessness of the gaze that give the power. As soon as the eye quails through trepidation or fear, the power is gone, the spell is broken, the beast has conquered, and there is danger.

It is not, however, to this power in a general sense that we would invite attention at this time, but to that influence and power which are exerted over domestic animals by those who have the care of them. A man is constantly exerting a peculiar sympathetical influence over all the various animals with which he has to do,—which is being as constantly reflected back in the disposition and character of each individual creature, according to the sagacity, spirit and value of the animal. Some animals, however, are naturally so stolid and spiritless that they are almost worthless except to supply the market stalls. How often do we see the nature and character of a man reflected back in his horse? A nervous, fidgety, irascible man will make in a short time a nervous, restless, fractious horse. His horse has caught his temper and disposition, and will make them manifest. While on the other hand, a calm, dignified. even-tempered man will soon make his horse, like himself, calm, noble, docile and gentle. How manifest is this also in times of danger, when horses become alarmed and frightened,—if their drivers are alarmed and terrified, the horses become terrified and unmanageable; while on the other hand, if their drivers are self-possessed and speak calmly and soothingly to their alarmed animals, they will soon begin to lose their fear and regain their confidence. We have often seen horses when anything occurred to excite their fear, neighing for their masters, and if at liberty, running to them for protection, when a few strokes of the hand upon the neck, and a few soothing words would quiet all their fear and make them calm and self-possessed.

Horses, as a general thing, can be far more easily controlled by the voice than by the whip, or rein even. They soon learn the tones of their master's voice, and know what is meant by it, and readily will obey that voice if properly trained, with far less trouble, and certainly with far less pain and suffering, than from the use of the whip. Let it here be remembered that they are not harsh, angry words, or loud oaths and imprecations that do this work of training; but words of calmness, firmness and gentleness. Animals do not like to hear the harsh grating tones of anger or passion, or oaths and imprecations of the furious man, any more than men do; and they will soon, under such treatment, become nervous, fiery and vicious. Many a noble horse has had to suffer the most shameful abuse for that which the harsh, angry voice of his master or driver has made him to be.

A man can easily make his cow nervous, fidgety and kicking, by his nervousness and irritability, and oxen will soon become fractious and unmanageable by the use of harsh, angry words and unkind treatment. All animals learn to love those who treat them with kindness. They love the calm, soothing, gentle tones of their master's voice, and readily obey his call. A calm, gentle word, the humming of a tune, a pat or stroke of the hand. will do far more to make a cow, an ox or a horse gentle and manageable than anything else,—for these win their confidence. The man who controls himself on his farm, in his stable and barn, among his horses, oxen and cows, gains far more every way, in comfort to himself, in safety and security of life and property, and in the yield of dairies, than by following any other course; for he has learned to govern himself, and in governing himself he has learned the secret of governing and managing his horse, his ox and his cow; in a word, everything feels the happy influence of a calm and dignified self control.

Who has not marked the difference between the appearance of a stock of cattle and horses kindly managed, and that of a stock, differently treated. In the one, the animals were peaceful and happy, and everything appeared in good humor. The cows, quietly chewing their cuds, are all ready with their full quota of milk, in a healthy condition, fit for the diary; not a foot lifted, and nothing lost from the foaming pails. The horses seem to smile and neigh a welcome to their kind-hearted master; and even the geese and hens join in a merry concert. What more inviting scene presents itself at the twilight hour of some beautiful June day than such a farm yard, the very picture of peace and prosperity! While in the other, every thing is in a flurry and tumult, a perfect "hurly burly." Cows and oxen dodging this way and that, afraid of a blow or a kick, while the very geese and hens fly in terror from the loud, angry and boisterous shouts or horrid oaths, with which the whole herd is hurried into the barn-yard. Nothing seems calm, quiet or good humored. The agitated and trembling cows chew no cud, but yield their heated milk, entirely unfit for the dairy, and perchance half is lost by a luckless kick of the foot, to be returned by a slap from the milking stool, only to make the poor trembling creature more fearful and uneasy.

How much need is there that our farmers should learn the secret of making their "barn families" peaceful and happy. It is sad to see how many farmers permit their animals to be most shamefully abused by rough men and boys, who should not be allowed to have anything to do with the noble animals God has given for the use and comfort of man. Such men and boys are better qualified for the House of Correction than for the farm. Every man will mould and shape the character and disposition of his domestic animals by his own spirit and temper. As he is, so they will be. If his horse, ox or cow is vicious and unmanageable, instead of abusing it, let him blame himself, or rather regulate his own conduct—govern himself—and thereby learn the secret of governing his creatures. G.

Needham, Mass., Dec., 1868.

For the New England Farmer.

RECIPROCITY AND COMBING WOOLS.

The little article which was published in the Farmer of November 28, on this subject, was sent to Dr. Randall by one of his Boston correspondents, with the remark, "I send you the enclosed article which (and it is that which gives it its importance) I judge was written by our friend —. —. ——. What do you think of his facts and logic?"

To the article, which is published in full in the *Rural New Yorker*, Dr. Randall appends the following remarks:—

> To the propositions contained in the second paragraph we subscribe fully. But the assumption contained in the next one, that "inasmuch as both the States and Canadas do not produce an amount (of long wool) sufficient to supply the wants of our manufacturers," *therefore* Canada wools if brought in free of duty would not affect the market prices of our own, is wholly untenable. Prices rise in proportion to the scarcity of a product. Every pound brought into the United States from Canada, lessens the scarcity in our market, and takes the place of so much domestic wool which our people could and would otherwise grow to supply the entire demand. The Canadas not having our taxes to pay can, even under our present rate of duties compete with us in our own markets on not very unfavorable terms. Take off the duty, and instead of being "just as much protected by our tariff as our own farmers are," the Canadian farmer will be in effect vastly better protected. The capital invested in sheep production in the United States annually pays to the Federal Goverment about four per cent. in direct or indirect taxes on its entire assessed value. How much additional does it pay in State and local taxes? These differ in different States and localities, and we have not the means now to estimate the average. Let us assume, conjecturally, that it equals three per cent. of the assessed value. Then we have the United States grower paying seven per cent. for what we may term the use of his own country's markets, while the Canadian grower, with reciprocity in wool, would pay *nothing* for their use! The Canadian grower paying neither our government taxes nor the duties levied on other foreigners, would be the most favored producer in the world in the United States markets—made so by United States legislation or treaties!
>
> How long under such circumstances would England remain the "principal long-wool producing country in the world?" If any confidence was felt in Canada that those circumstances would be permanent—i. e. that the United States would maintain free-trade with Canada and the present duties on the wool of other foreign countries—"the Dominion" would soon become the leading long-wool producing country of the world; and it might even seriously compete with our *northern* regions in the production of fine wool. Under such a state of things, it would be decidedly advantageous, in a pecuniary point of view, for at least our long-wool growers to emigrate to Canada!
>
> The attempt to show, inferentially, that our home prices on long wool have been depressed by the tariff, because those prices were higher under reciprocity than now, is supported by no pertinent fact or even argument—but simply by the coincidence of the two circumstances. Alone this coincidence proves nothing. The commercial, physical and political causes which have depressed the prices of wool since the tariff went into effect, are patent to all well informed men. They have been set forth in the resolutions of the National Wool Growers' and Manufacturers' Associations, by similar State associations, and by the agricultural press. They never have been denied, or so far as we have seen, questioned.
>
> We have, in our anxiety to treat with courtesy an honored correspondent, been drawn—rather inconsiderately—into an answer to the positions of an anonymous writer in another journal. This is contrary to a rule of editorial action, the reasons for which will probably be obvious to all—and which we do not propose again to violate, under any ordinary circumstances.

It would appear that "Mentor" is not known either to Dr. Randall or his correspondent; and though the doctor apologizes for having noticed an anonymous article, we are disposed to think that anonymous articles are more likely to be tested on their own merits than articles to which the name of some one known to fame is attached. By their remarks, however, the doctor and his correspondent have paid us a compliment we never expected. We do not know who their mutual "friend" is, and we do not see how that friend could give any article an importance to which the facts and logic it contained did not entitle it.

The doctor evidently labors under a misapprehension, in the outset. It would be folly to dispute that "prices rise in proportion to the scarcity of a product," or that "every pound brought into the United States from Canada lessens the scarcity in our own market." But the statement that every pound thus brought into the country "takes the place of so much domestic wool which our people could and would otherwise grow to supply the entire demand," is one which requires a very large amount of qualification.

The fact is that the Canada wool does not take the place of the wool which our own supplies, but it fills a place which our own people have failed to supply. A large amount of that imported does not in any way compete with much of the so-called domestic combing. The latter is soft and dull haired, being only quarter or half bred Leicester, Cotswold or Lincolnshire; very little full blood Leicester or Cotswold being produced in the country. Thus, as we have before said, our own people do not produce the wool we want, consequently our manufacturers must have the wool from Canada or stop their mills. They must not only have this, but they must also go to England.

Now if the Canadian does not have to pay the taxes, general and local, that our farmers have to pay, the English farmer surely has to pay heavy taxes and heavy rents; much heavier than the taxes of our farmers, when rent is considered. Still combing wool in England sells at 30 to 40 cents per pound, gold, and is much superior to what our people have yet produced, and it will be some time before they do it. Until such time as they do, we must obtain our supplies from other countries, or our manufacturers must shut up their mills. So far our manufactures have increased much more rapidly than has the production of wool. A year ago there were in the United States over 250,000 pounds of Canada wool of the clip of 1865, and over half a million pounds all told. Now there are not over 50,000 pounds all told.

Last week there were sold in New York 50,000 pounds of Canada wool, which was shipped to England in July last, because the English market then appeared more favorable than ours. But wool advanced here, and it was thought advisable to ship it to New York, where it was sold for 52 cents per pound, gold. Our best domestic combing brings 60 cents, currency, ten cents less than the Canada which paid ten cents per pound duty, and eleven per cent *ad valorem*.

The Doctor says "the attempt to show inferentially that our home prices on long wool have been depressed by the tariff, because those prices were higher under reciprocity than now, is supported by no pertinent fact or even argument, but simply the coincidence of two circumstances."

We were not aware that we did attempt to show or to prove, either inferentially or otherwise, that combing wool was lower now than before the repeal of the reciprocity treaty. We stated a fact which the Doctor does not deny, but calls it a coincidence. Now we supposed the Doctor was philosopher enough to know that coincidences are effects of causes; and the cause of this coincidence is the fact that trade has been bad in England, and the combing wool there is not worth so much as it was in 1865 by from four to eight cents per lb. He does admit the fact that though the demand here has been increased since the repeal of the reciprocity treaty, contrary to the general law of supply and demand, wool has decreased in price; and he does not deny the other fact, that with the repeal of the reciprocity treaty wool fell in Canada, and was twenty cents per pound less last July than in July, 1865, and that to-day it is less by twenty cents than then, still our farmers are getting no more in consequence of the tariff, but the Canadian is getting less. These are the facts which are uncontrovertible.

Though the Doctor should not compromise the dignity of the editorial chair by noticing another anonymous article, we sincerely thank him for the small favor he has so kindly condescended to confer upon us. We are to fame unknown, and may prefer to remain so.

This little incident, however, reminds us of the story of a blacksmith who had gained repute for the keenness of his edge-tools, and who one day forgot in the process of manufacture to apply the steel. On being reminded by his apprentice of the omission, he replied, "Never mind, its name is up!" Other men's names may be up so high as to give an article all its "importance," but ours is not, therefore we are compelled to put on the steel.

Boston, Dec. 11, 1868. MENTOR.

For the New England Farmer.

NEWPORT, MAINE.

Many people in New England who have never visited Maine, form an idea of its climate from the winds which come to them from "Down East." A more mistaken notion cannot be entertained, as I have learned from a recent trip through a portion of the State.

Here I am now in the town of Newport, the surface of which is nearly level,—there being no hill of any note in town. Nearly one-third of its area—some six miles square—is water; there being a large pond nearly in its centre.

The Maine Central Railroad, from Waterville to Bangor passes through the town, and the village is also connected with Dexter by another railroad. Newport Village is a place of considerable trade, there being some twenty stores, good flour mill, &c. Potatoes are one of the staple crops of this town. One farmer informs me that in his school district the farmers will average more than a thousand bushels each. At East Newport Depot they have bought and sent to Bangor more than twenty-five thousand bushels, and at the Village more than four times as many.

The profit of the business, and the spirit in which it is prosecuted, may be illustrated by a single instance that came under my notice. Two young men, brothers, bought one hundred acres of land in Stetson, a town adjoining Newport, for four hundred dollars. They cut wood enough last fall to pay for the same. The wood was hauled to the railroad and sold. Last spring they burned up the brush, planted patatoes, and this fall they dug seven hundred bushels, which they sold for eighty cents per bushel. On the same field they had a patch of white beans, from which they harvested about twenty bushels. They say they have a good "camp," well furnished with everything but a woman; a deficiency that the young ladies of the neighborhood will probably soon take measures to supply. F.

Stetson, Me., Dec. 11, 1868.

CLOVER IN ROTATION.

In reply to a New York correspondent of the *Country Gentleman*, a farmer in Bucks county, Penn., writes to that paper, that farmers in his section introduce clover less frequently into the rotation than formerly. At a Farmers' Club, where nearly a score of farmers were present who had tried clover, the unanimous testimony was that it was becoming more and more uncertain, while blue or wire grass was taking possession of the soil—indeed, every one said he had been forced to abandon the growth of clover. The writer says:—

Some observations of my own may help to throw light on the subject. There are two fields on our farm which have been cultivated almost from the time of the first settlement by the Quakers under Penn, nearly two hundred years ago. One of these fields is of the red shale or old red sand-stone formation, and on this field clover has never failed with ordinary care. The other field, and indeed the rest of the cultivated land, is the diluvial soil of the Delaware Valley, which is here a rather light, or sandy gravel loam, thirty feet in depth. In the new field, cleared within fifty years, no difficulty is experienced (in the ordinary rotation) in securing a good catch of clover. In the old field clover has failed in a greater or less degree for twenty years, yet a part of the same lot of ground was reserved some eight or ten years ago as a suitable piece on which to practice soiling. Sowed corn, rye, millet, &c., were raised in different succession for five or six years. But the constant diminution of the crops at last revealed what theory did not, that the continued working of so light a soil decreased its fertility faster than an annual liberal supply of manure could replenish it. I then seeded it to rye and clover. The rye was a light crop, but the clover has been the admiration of all who have seen it for two years, and bids fair to do well another year.

AGRICULTURAL ITEMS.

—Solomon advises the sluggard to go to the ant; but the shiftless in our day generally go to their "uncle."

—The experience of this year proves that wheat can be raised profitably in Maine. The midge has not troubled the crops to any great extent.

—An oak in Lawrence, Kansas, is nine feet in diameter and thirty in circumference, and the lowest limbs are forty feet from the ground.

—In a journey through Illinois, D. B. Walsh, Esq., the State Entomologist, discovered that the oyster-shell bark-louse, cannot permanently exist in the Southern half of the State. Trees infested with this insect, taken from the Northern part a year ago, were found to be nearly or entirely free from them, nothing remains but the old dry scales.

—The Hinesburgh, Vt., cheese factory worked the past season 139 days, and manufactured in that time, 1157 cheeses, averaging a fraction over fifty pounds each. About one-half of the cheeses made were sent to market by the company, mostly to Burchard & Co., of Boston, it selling in that place from 15½ to 17½ cents per pound. The total amount of money received for the sale of cheese, and gain on hogs fed at the factory was $19,543.69. The number of cows furnishing milk for the factory varied from 250 to 600. The total number of pounds of milk manufactured was 1,219,286; total pounds of cheese made 123,093; being nine and nine-tenths pound of milk to one pound of cheese.

—Mr. Thomas Reynolds, of Hadley, Mass., has recently lost three cattle through a disease which is strange in that locality. The cattle have all died early in the morning, having exhibited no previous indications of bad health, and having eaten well the evening before. A *post mortem* examination shows a disordered digestion, and that the coatings of the stomach and of the intestines are much diseased, also the liver and gall bladder, the latter being thickened. The lungs appear perfectly healthy. This disease resembles, in some of its aspects, the Texas cattle disease. But as poison is said to produce similar effects, it remains to be determined whether these cattle died from that or from some other cause. These cattle came from Vermont, where they were pastured during the past summer.

EXTRACTS AND REPLIES.

MICE GIRDLING TREES.

Some years since you kindly published a communication from the writer, on "How to prevent mice girdling trees." As I am unable now to refer to the date of the FARMER in which it appeared, I will, with your permission, repeat it in substance, for the information of "Jack" or any other of your correspondents.

Place around your trees tubes or cylinders made from old waste tin, stove funnel, yarn cans, sheet iron, or zinc, any quantity of which may be had for the picking up about stove or tin shops, or perhaps on your own premises. The tubes may be from two to eight inches diameter, and from six inches to any length you may desire and can find material for. A tinman's shears and vise are all the tools necessary to put them in shape for use. Cut to the sizes you want, turn over the edges one-eighth of an inch of two sides in opposite directions, bring it round a tree, clasp it by hooking the parts turned at the edges together, press down a little into the earth and you have a mouse-proof shield that will not easily get displaced, that can be put in position and removed in ten seconds, and will last a life-time with very little care. I have used, and so have some of my neighbors, these shields for fifteen years past around trees growing in places where mice are most likely to abound, but have never known of a tree being injured by the vermin when thus protected, while other trees in the same locality, left unprotected, or banked up, have been ruined. The expense of these shields is trifling. A tin worker made a hundred of various sizes for me some fifteen years ago, at a cost of less than three cents a piece. Most of them have been put around trees every winter since, and they are now as serviceable as when first made. I use them in spring about young cabbages and other plants, and they prove a good protection against cut and slug worms. I sometimes fill the circular space around a tree with coal ashes and let the shield remain the year round as a preventive of the operations of the apple and peach tree borer.

If your correspondents "Jack" and "J. J. T." will fairly test my method of "circumventing the varmints," if it fails, they may draw on me at sight for all trouble and expense. R.

Lowell, Mass., Nov., 1868.

COTSWOLD SHEEP.

Since the publication in your paper of my article upon the profits of Cotswold sheep, I am almost daily in receipt of letters requesting me to give the result of my experience in breeding and crossing them upon other breeds. To comply with these requests by letter would take nearly the whole of my time. I will, therefore, with your permission answer them in a series of articles during the coming winter, through your valuable paper.

But first let me inquire of such men, are you readers of the NEW ENGLAND FARMER. If not, will you immediately subscribe for it, and endeavor to induce your neighbor to do the same thing, for I cannot consent to ask the editor to furnish us with the ready-made brick, without first offering him the straw to make it of. There is not a reader of this paper who cannot with very little trouble, induce some one of his friends or neighbors to subscribe for the NEW ENGLAND FARMER. Now friends will you do it?

I have many letters saying that thousands of sheep will be "slaughtered for their pelts;" "we are becoming heartily disgusted with raising fine wool and keeping fine sheep." To all such I would say hold on! There is a better way than to go into the indiscriminate slaughtering of sheep for their skins, and it is my purpose to show a better way. T. L. HART.

West Cornwall, Conn., Dec. 8, 1868.

APPLICATION OF ASHES TO FRUIT TREES.

I often make use of ashes around my trees,—certainly as often as once a year, and believe it to be of great benefit to them. But, like some of your other correspondents, I have learned not to apply it in contact with the bark of the trees, as they become moistened and form lye often too strong for the growing wood. I generally use about one quart of ashes to a tree, scattering it around them as far as the roots are supposed to extend underneath. My large trees, in bearing ten or twelve years, receive an application of from six to eight quarts of unleached, or double the quantity of leached ashes to each tree, scattered in same manner. I never permit the ashes to lie upon the ground in any place more than one inch in depth.

It is the excessive use of proffered blessings which renders them a curse. Let us profit by each other's experience, truthfully, and candidly given; and thereby avoid errors, which require time and capital to correct.

In this connection allow me to remark, that I fully appreciate the wide influence, which your excellent journal is exerting, in advancing the great and growing interests of agriculture and horticulture. I like the tone of your paper. It has a tendency to make young men satisfied with their homes, and teaches them the manhood, *independence* and honor of a farmer's life.

SOLON BURROUGHS.

Vergennes, Addison Co., Vt., Dec. 4, 1868.

REMARKS.—It may not be improper for us to remark that the foregoing is from a practical nurseryman.

APPLICATION OF MANURE.

In your issue of November 28, I was not only pleased with the closing remarks of W. S. Grow, but with your most pungent remarks in reply.

The most economical application of manure is a study of the greatest importance, and requires the closest observation for a period of many consecutive years. In my observation for twenty years in the practical application of manure, I am convinced that what is ordinarily termed "mulching," or the application of thoroughly decomposed barn-yard manure to the surface, to be the most economical use of this class of fertilizers. From this experience I am convinced that one cord of manure applied to the surface on wheat ground at the time of sowing, or on ground intended for corn, in the late autumn, or applied to all varieties of large and small fruits, is worth three cords ploughed or dug under to a depth of eight inches. My soil is of a gravelly loam, resting upon a clay subsoil. Upon more tenacious soils or upon deep drifts of shale, a different application may prove advisable.

Hoping to hear from our friend Grow, and others of your intelligent country gentlemen, I am yours truly. E. M. BRADLEY.

East Bloomfield, N. Y., Nov. 30, 1868.

KING OF TOMPKINS.

I see in the FARMER of last week, a notice of the King of Tompkins County apple, which hardly answers for this locality.

Some fifteen or sixteen years ago, while living in Tompkins County, I came across this apple, and thought it the handsomest and best apple I ever saw. I sent some scions to my father in Concord, who grafted them into two trees in the orchard. They have grown thriftily, and are now the largest trees in the orchard, but never get more than a bushel or so to the tree, and what is worse, they rot badly on the tree, and after they are gathered. I have noticed also, that several other varieties that I sent at the same time, from Central New York, have the same defect,—that of rotting badly on the tree. The Northern Spy was one of these.

We keep the King apple, not from any profit pecuniarily, but because the housekeepers think it is the best of any for cooking purposes. Many things raised on the farm, besides these apples, are not to be valued by dollars and cents. F. G. Pratt.

Concord, Mass., Dec. 7, 1868.

ASHES AND METAL TUBES TO KEEP MICE FROM TREES.

A correspondent in the Farmer of November 28th, desires to hear from others in regard to the effect of ashes placed around fruit trees. Several years since I had some apple and peach trees from two to five inches through that were troubled by borers. I placed tins in the form of a tube around the trees, ten inches in height, leaving a space between tree and tin of about two inches, and filled in with hard wood ashes. The result was that most of the trees so served, especially the peach and smaller apple, did not swell their buds the following spring, and I found upon removing the tins, that the bark had become black and slippery, readily parting from the wood. Six out of ten trees were dead, while other trees in the same yard, dealt with in precisely the same way, except that instead of filling in with wood ashes, I filled in with sifted coal ashes, were doing well and started finely. I have trees with tins about them filled with coal ashes that have not been removed in the last four years. The trees thrive well and I can find no vestige of the borer, unless it may be in rare instances up about the lower limbs. I think sharp sand filled around the tree would be quite as good as coal dust—perhaps better.

If Mr. W. V. Tainter will try the metal tube about his "thousand fruit trees," without *any* filling in, he will find his trees all right next spring, so far as girdling by mice is concerned. R.

Lowell, Mass., Nov. 30, 1868.

ANOTHER CURIOUS FREAK OF NATURE.

A late number of the Farmer gave us an account of a lamb which saved its owner the trouble of marking it, as it came with a distinct imitation on its side of the initial "L" with which the owner marked his sheep. Another singular case occurred on the farm of Ingham Chandler, Esq., of this place. A lamb was dropped that appeared to be perfect in all respects, except its head, to which was attached by a small ligament, perhaps an inch in diameter, a sack nearly as large as the head, which, from its location, resembled an extensive "waterfall." This protuberance, like a bladder "blown up," yielded to the touch, but immediately resumed its former shape on the removal of the pressure. The lamb died. Is this a warning to the wearers of "heavy waterfalls?" Zen.

Washington Plantation, Me., Dec. 2, 1868.

PARALYSIS OF A HORSE'S LIPS.

I notice in your issue of this week "an interesting case of paralysis." The muscles that control the movements of the lips in grasping are what are called the "*orbicularis oris.*" They are situated within the border of the lips, and are attached to the bones called superior and inferior maxillary bones. Some anatomists call them the posterior and anterior maxillary bones. The posterior maxillary bone for the most part holds the muscles named. This bone extends from that part of the skull where the tusk is found in the upper jaw, up to the "*malar bone*" at the apex of the protuberance below and back of the eye.

The connection of the muscles of the lips is along this bone and under the base of this protuberance. Any bruise upon this bone, or slight fracture, might involve the muscle. If inflammation is found, reduce it; if not, a slight blister or stimulating application may help it. The injury is undoubtedly mechanical, and requires local treatment.

T. S. Lang.

North Vassalboro', Me., Dec. 5, 1868.

WINTER CARE OF POULTRY.

The question, "How to make hens profitable during winter?" is constantly being asked and as often answered. I propose to give a few hints in regard to it. If they are expected to lay in the winter, one requisite is to have them of suitable age. April and May chickens are the best to keep as layers; and in selecting, choose those with broad breasts, plump and full forward. Now, this is not generally believed; but it is true that broad, square breasted hens, will lay longer than any others.

Having the best pullets to start with, give them the warmest place possible, and be sure to give them plenty of light. Laying hens should have low places to roost, and should have the kindest treatment. They should have plenty to eat and have clean water always before them. Meat and bones pounded before burning, are very useful and perhaps indispensable where the most profit is wanted. One great thing is to be on intimate acquaintance with the hens, so that when one goes to feed them they will know that it is a friend, and not an enemy ready to throw something at them. H.

Norwich, Vt., Nov. 30, 1868.

FAILURE OF SCIONS.

In regard to the failure of scions spoken of by your correspondent, "Jack," in the Monthly Farmer for September, I would say that the trouble was probably in the scions or in the setting of them. Have good scions and set them properly, and I don't think the weather will affect them. I cut my scions some warm day in Febuary or March, before the buds have started, pack them in greenwood sawdust and keep them in the cellar until I want to use them. I set them the past season from the first of April until the first of July, and don't know as I lost a single stock. J. W. G.

Cummington, Mass., Oct. 28, 1868.

EARLY PEAS AND EARLY ROSE POTATOES.

I find that the offer I made in my advertisement to furnish packages of my early peas at 25 cents is likely to lead to more applications than I could well supply. I presume I am the only one to blame; but I meant to say that I would send a 25 cent package of peas to every one who ordered Early Rose potatoes from me, if they desired them. From a single pound of Early Rose planted by themselves, I raised 176 pounds,—my largest potato weighing one pound and nine ounces. W. I. Simonds.

Roxbury, Vt., 1868.

SALTING HAMS.

I have this day been salting my pork hams after the following method: 3 gallons water; 4½ pounds salt; 1½ pounds brown sugar; 1 pint molasses; 1 ounce pearlash. Boil and skim. Let the hams remain in the mixture from four to six weeks. When taken out soak them twelve hours and smoke to your liking. I have practiced this method thirty-two years. I have never eaten any hams that would equal them in goodness. The meat is tender, sweet and juicy; not salt and dry as most of the hams are that we buy at the stores. E. L.

Long Plain, Mass., Nov. 21, 1868.

FANCY OR GILT-EDGED BUTTER.

I have seen in the Produce Market Report, several times the past season, that "Fancy Butter" is quoted from thirty to forty cents a pound more than the best of common butter. Now I would like to inquire through the FARMER what that butter is and how it is made? JACOB G. HOVEY.

East St. Johnsbury, Vt., Dec. 7, 1868.

I would like to know how the "Gilt-edged Butter" is made that is spoken of in the FARMER? Will some one that knows how, please inform us?

L. R. PARTRIDGE.

Braintree, Vt., Dec. 12, 1868.

REMARKS.—We submit these inquiries to those who know how to make "gilt-edged" butter, with the hope that some one will reply. We are not, however, very sanguine in our expectations that every particular of the process of making "fancy butter" can be put upon paper. The expression "gilt-edged" as applied to butter, or to commercial paper, means, we suppose, simply extra, premium, superfine,—*the* very best. There are "gilt-edged" articles of all kinds in the market; and there are, also, "gilt-edged" farmers, "gilt-edged" housekeepers, "gilt-edged" mechanics, "gilt-edged" men and women, boys and girls, in every department of life, all the way up to Presidents and Kings; but who can divulge the secret of their superiority? Can they themselves impart it to others?

We were informed by one of the dealers in the "gilt-edged butter" alluded to in our report of the market, that in one case the woman who had charge of a dairy which had for some time produced a tip-top article of genuine "fancy butter," was obliged to leave the establishment for a few months. Notwithstanding all the advantages of her example, and of her directions to her successor, the butter made during her absence, from the same cows, in the same room, and with the same utensils, depreciated in value some twenty cents per pound. On her return, however, the butter immediately resumed its former excellence.

Other cases of failure were spoken of, where intelligent men had failed in their efforts to produce the true "gilt-edged" article of butter, though no expense was spared in the selection of cows, in feeding them, or in furnishing the necessary manufacturing conveniences.

We do not state these facts to discourage any one in their efforts for improvement. Nor do we doubt that considerable butter is every year produced by dairy women in the country which, if offered by a well-known maker of the "gilt-edged," would pass as a first rate "fancy" article.

This leads us to remark that the *reputation* of the maker is an important item in the *character* of the article produced. Families who pay "gilt-edged" prices demand assurance of the "respectability" of the source of the article; assurance of neatness and care in every process of its manufacture. We have often heard the remark from a neat farmer's wife, "I should dislike to be obliged to use butter bought in market, without knowing anything about where it came from, or who made it." Nice city people have the same delicacy of feeling and are willing to pay a round price for butter that not only looks and tastes all right, but which they know, and can assure their friends who eat with them, was made with clean hands.

This is all we know about "what that butter is, and how it is made."

CHEAP WASH FOR BUILDINGS.

Will you please inform me through your columns of some durable and cheap wash for buildings. Something of the kind has appeared in your paper, but I am unable to procure it.

S. N. HOWARD.

West Bridgewater, Mass., Dec. 14, 1868.

REMARKS.—The monthly issue of the FARMER, with its annual index furnishes excellent facilities for preserving and referring to the valuable information which appears in its columns. At page 47 volume for 1868, is an editorial article on "How to Prevent the Decay of Wood," in which we introduced the following rules for making whitewash, given in the *Scientific American*, to which we presume our correspondent alludes:—

"Take a clean, water-tight cask and put into it *half a bushel of lime*. Slack it by pouring water over it boiling hot, and in sufficient quantity to cover it five inches deep, and stir it briskly till thoroughly slackened. When the lime has been slackened, dissolve it in water, and add two pounds of *sulphate of zinc* and *one of common salt*. These will cause the wash to harden and prevent its cracking, which gives an unseemly appearance to the work. A beautiful cream color may be given to the wash by adding *three pounds of yellow ochre*; or a good pearl or lead color, by the addition of *lamp or iron black*. For fawn color add *four pounds umber*, *one pound Indian red*, and one pound *common lamp black*. For stone color add *four pounds raw umber* and *two pounds lamp black*. When applied to the outside of houses and to fences, it is rendered more durable by adding about a pint of sweet milk to a gallon of wash."

KICKING COWS.

Is there any remedy for a kicking cow, besides tying her in some of the various ways that have been recommended? I have a valuable cow for milk, gentle every way and appears to have a gentle disposition; but the instant that I take hold of her teats to milk she will kick me over if she can. If you or any of the readers of the FARMER can tell me of a way to prevent or cure her from kicking, you will greatly oblige E. L.

Long Plain, Mass., Nov. 21, 1868.

REMARKS.—Something a little extra by way of food given to a cow while milking will sometimes prove effectual. A confirmed kicker, however, is a bad subject, and the cheapest way often is to make beef of her. In his book on American Cattle, Mr. Allen says, that he has milked valuable cows addicted to kicking by taking the iron *forceps*, used for holding cattle by the nostrils, and tying them by a rope or strap to a beam over head, and drawing up their noses at an elevation and there securing them while they are milked. Some milkers are in the habit of pressing sharp finger nails against the sensitive teats, and then abuse the cows because they kick.

A COUGH IN A HORSE.

I have a valuable mare that has a bad cough. She had the horse-ail when I bought her last spring, and has not got rid of her cough yet. She coughs but very little on the road, but runs at the nose when at work. Whether she has recovered from the horse-ail or not I do not know, but think she ought to have done so before this. She eats as well as any horse, and appears well, except the cough, which keeps her thin of flesh. Can you or any of your subscribers give me any information about it, or suggest a good remedy?

A Subscriber.

Marshfield, Mass., Dec. 16, 1868.

Remarks.—Notwithstanding the skill of our best physicians, they are often unable to cure coughs in their human patients. A cough is rather a symptom than a disease. It is often caused by the irritability of the air passages, occasioned by previous disease. A chronic cough in horses is often occasioned, says Dr. Dadd, by indiscretion in the treatment of influenza, distemper, and disease of the respiratory apparatus. It is also one of the effects of liver disease, and sometimes of worms. Too much dry fodder, especially chaff, often aggravates a cough. Carrots and other roots and green feed may be advantageously used. Give your horse a warm stall, with bedding a foot deep, with moist cut feed, a little laxative medicine and not much hard work. If others have a sure cough remedy we hope they will prescribe.

GIRLS ON THE FARM.

If it is necessary to the interest of the farm that the boys remain at home, it is no less important that the girls remain there also. Perhaps keeping the girls at home would be the most successful means of keeping the boys there, as youth is always attracted by beauty and grace. The great call for help in cities and manufacturing districts induce great numbers of our middling class of farmers' girls to leave home or situations in farmers' families and seek employment in shops or factories. Although they may earn nominally great pay in these places, their fancied wants require the expenditure of nearly all their wages; and in numerous instances their health becomes sadly impaired, and many of them return home with pale faces and impaired constitutions, instead of the rosy cheeks with which they left home, and with a growing dislike for the plain and substantial things of the country and farm. It would be much better for farmers' girls to stay at home and help their mothers, and their fathers, too, if he has not boys enough. Although they may not have so many fine clothes, costly jewels, and city fashions, they will possess that which is far more desirable—common sense and robust health.

We have Agricultural Colleges for our boys, and by and by these educated and practical young farmers will want healthy and qualified wives. Therefore our girls must wake up, and consider the prospects before them, and embrace every opportunity for fitting themselves for healthy and honorable positions.

It is not unlady-like to be able to superintend the entire domestic concerns of their own households. The servants, if such are employed, are far more likely to be faithful and economical if the mistress knows whether the bread and butter are made right or wrong. The ignorance of the mistress of the house in the details of housekeeping is the great cause of the trouble with the Bridgets, of which we hear so much. When I hear ladies complaining of the ignorance and awkwardness of their help, I am often glad that they do not know what I think is the main cause of all these domestic difficulties. "Good workmen never complain of tools." Good generals are always supported by efficient and reliable officers, and by brave and successful soldiers. Good housekeepers are usually fortunate in securing good help, because they can direct and educate their servants. Housekeeping is an art and science that can be acquired only by much practice. There is no royal road to this, any more than to any other branch of our education. It is not acquired at high schools, nor in shops and factories. In factory and shop work girls expect to serve a more or less extended term of apprenticeship, but as to housekeeping very many young ladies seem to think that no apprenticeship or experience is needed. Is it strange that domestic infelicities and even divorces should be fearfully on the increase?

Mrs. Trask.

Reading, Mass., Nov. 27, 1868.

MICHIGAN AND KENTUCKY CORN.

By a late number of the Farmer I see that my Kentucky friends are bragging on large ears of corn. On reading the account of their big ears, my man said "We can beat them," and on going to the crib brought in an ear 11¾ inches long, with 22 rows and 55 kernels in a row and nicely tipped out, making 1210 grains in all. The variety is known in this neighborhood as the "Bloody Butcher," of which I send you a few kernels, as a specimen. If this ear is beaten we will dig deeper into the bin. Hudson is in the Southern part of the State, near the line which separates Ohio from Michigan. I came from Vermont two years ago, and am much pleased with my location.

Hudson, Mich., Dec. 9, 1868. D. M. Briggs.

Remarks.—The kernels received are beautifully striped with deep red; the ground being faint yellow and white. In shape the kernels are oblong and about half an inch in length.

SCRATCHES AGAIN.

For the cure of scratches I would suggest that milder remedies be used than most of those named by "Subscriber," in the Farmer for Dec. 12.

The last one, however, mentioned by him, that of white lead and linseed oil, I regard as the best I ever tried. Wash the horse's legs clean with castile soap and soft water, rub dry, according to direction of "Subscriber," then apply the paint. But external remedies will generally give only temporary relief. Remove the cause, and the trouble will cease. I believe it is conceded that the cause is impurity of blood. Keep the horses blood in good condition and he will never have the scratches. To do this give common epsom salts. I have cured severe cases with no external application. I make a practice of giving my horses salts every fall. Consequently they are never troubled with this disease. For a dose, I use a table spoonful once a day for three days in succession; then omit the medicine for three days, and so alternate it, until you have given a pound, more or less, according to the necessities of the case. If the horse is very bad, it will require double or treble the above dose,—exercising judgment, of course. I write from experience. Try it. An ounce of prevention is worth a pound of cure.

A Friend of the Afflicted.

Newport, N. H., Dec. 13, 1868.

PARALYSIS OF A HORSE'S LIPS.

I discovered this fall that my horse had lost the use of her upper and under lips. She would seize a mouthful of hay with her teeth, but could not get it where she could grind it. Consequently she grew poor very fast. I gave her some physic and bled her in her under lip near the teeth. She immediately improved, and is now well. I also washed her head in wormwood and urine. I ascribed her difficulty to a cold in the first place.

Hinsdale, N. H., Dec. 8, 1868. A Subscriber.

GRAPE VINES ON TREES.

In reply to an article in your paper, recommending planting grape vines at the foot of trees, I would say, I once planted one in that way. While the tree remained small, I was benefited by the grapes. But as years rolled on, the tree became a lofty one, so that the fowls of the air lodged in the branches thereof and devoured the grapes, while I, a dweller here below, must be content to take up with such as fall to the ground, which I generally find to be wormy and rotten.

Leander Morton.

Hatfield, Mass., Dec. 6, 1868.

ASHES INJURIOUS TO APPLE TREES.

I notice that several of the correspondents of the Farmer caution the public against adopting my recommendation of putting ashes around trees to protect them from mice. I said it should be applied as late as possible before winter sets in. Brother Tainter put the ashes against the trunks of his trees in June. As the tree is then full of sap, and the bark strained to its utmost by the flowing sap, I should not dare to pile ashes around the trunks at that time, affected as ashes must be by heavy dews and hot suns. I may refer brother Tainter to the young orchard of C. Gray, Esq., of Wilton, not more than fifteen miles from his place, on which ashes has been used as recommended by me.

East Jay, Me., Dec., 1868. Jack.

A CROSS OF MERINO AND COTSWOLD.

I wish to inquire through the columns of your paper, whether I can make it profitable to make a cross on my sheep by using a pure blood Spanish Merino buck on some pure Cotswold ewes. Will you or some of your correspondents inform me?

A Constant Reader.

Alstead Centre, N. H., Nov. 2, 1868.

Remarks.—We are very fortunate in being able to refer you to some remarks upon this subject on another page of this number, by a gentleman of large experience in the wool business, and shall be pleased to publish more direct answers to your inquiry, as many wool growers are interested in the subject of the improvement of their flocks.

MILK OF JERSEY COWS KEEPING SWEET.

One of our milk men says that the milk of a Jersey cow in his herd will keep sweet from ten to twelve hours longer than any other milk he has. Is it because the milk is richer? Who will tell? If it is, as the man referred to thinks, because the milk is richer, it will, or should, add much to the value of a cow that gives rich milk. Is the subject worthy of discussion? It is new to me, and may be to many of your readers. F.

Mast Yard, N. H., Oct. 29, 1868.

SCRATCHES ON HORSES.

In the last Farmer I see an inquiry for a remedy for scratches. I have lately cured the worst case I ever saw with two applications of white pine turpentine, thoroughly rubbed on.

Westboro', Mass., Nov. 23, 1868. W. S. Grow.

DUTCH CATTLE.

From expressions that we have heard from cattle breeders, we believe that the reports which have been published of Mr. Chenery's late sale of stock, particularly of his Dutch or Holstein cattle, have made an erroneous impression on many minds. The idea seems to be that the prices obtained for his half and three-fourths blood Dutch, were an indication of the popularity of the pure Dutch in this section, which we have good reasons for believing is not correct. Those in attendance at his sale were probably mostly breeders, who wished for pure blood or none. We find the following note from Mr. Chenery in the last *Prairie Farmer*. Perhaps it may be proper for us to say, that we publish it in justice to the Dutch cattle, and not at the suggestion, or even with the knowledge of Mr. Chenery:—

In your notice of the auction sale of live stock at my farm, on the 12th inst., you say that "but three Dutch cattle were sold; one for $80, one for $55 and the other at $35." As this is likely to lead to very erroneous impressions with regard to the value of my "Dutch" or "Holstein" cattle, allow me to say that none of my pure bred Dutch cattle were offered or advertised for sale at auction. The auction catalogue embraced only ½ and ¾ blood, yearling heifers and heifer calves (got by bulls out of common and grade cows). Those sold at above prices were ½ blood calves, and, as you say, the balance were withdrawn. I may add that since the auction, some of them have been sold at private sale as high as $200.

Boston, Mass. Winthrop W. Chenery.

About Horses.—From the *Rochester Union* we take the following:—

Horses as a general thing get too much licking and too little feed. If a man loses his hat while driving his horse, he licks the horse to pay for it. If he runs into another wagon through his own carelessness, he licks his horse to make it all right. If his horse slips or stumbles, he gets licked for it—if he does anything he gets licked, and if he *don't* do anything he gets the same. A great many horses know "a sight" more than their drivers, and if they could change places with them, society at large would be the gainers, and so would horses.

THE COMPOST HEAP.

Can specific additions be made to it, to adapt it to particular soils and crops?

Compost heaps consist essentially of carbonaceous matters and animal manures. These last act as a ferment, and produce fermentation and decomposition, and reduce the whole mass to a uniform consistence. Compost heaps also contain more or less salts and minerals, which modify the chemical actions which take place in the mass. Where the heap contains a sufficient quantity of animal manure it may be said to be fitted to all soils requiring manure, and to all crops. But the making of a compost heap supposes that we have not a sufficient supply of animal manures, and that we are attempting to supplement the want by preparing other material to take their place.

Composts are sometimes prepared by combining salts and minerals with peat and muck; but on most soils this is a failure. The housewife may mix the materials for a good loaf of bread, but if she omits the yeast she will not have good bread. So if the animal manure is left out of the compost heap, the result will be a very imperfect compost. The fermentation necessary to produce decomposition and uniformity will not take place.

Some soils contain an abundant supply of certain elements of fertility and are deficient in other elements. So, also, some crops require a large supply of certain kinds of plant food. Now shall we apply our compost indiscriminately to all soils and all crops? Will this be good economy?

To answer this question understandingly, we need a knowledge of the nature and condition of the soil, and of the wants of the particular crops we propose to raise. The science of the agricultural chemist and the experience of the farmer are both needed to enlighten us.

If manure is applied to the new soils of the West, it is found that they produce an exuberant growth of straw and stover, and actually less grain than when no manure is used. The soil contains all that is needed for the growth of wheat and corn, in abundance. After two or three crops, or more, have been taken from it, lime, ashes or salt may be applied with advantage. But quite a number of crops may be taken before animal manures are required. But, after a time, the humus is decomposed, the nitrogen is exhausted, and the crops diminish; as they have already in Illinois, where the crops of wheat average only eleven bushels, instead of twenty-five or thirty. Here experience confirms the decision of science, that the elements upon which the wheat feeds are exhausted in the surface soil, and they must either be brought up from the subsoil, or added to the surface. Deeper ploughing and the addition of lime and potash may renew the crop for a time. But soon the soil will require carbon and nitrogen and minerals, because decomposition and frequent cropping have taken them out of the soil.

If a soil contains a good supply of humus the addition of lime and some stimulating manure will give good crops. If it is light and sandy, it requires carbon and potash. If it is cold and heavy, it wants carbonaceous and animal manure to improve its mechanical condition, as well as to stimulate its fertility. Grains and seeds require a good supply of phosphates to produce them in perfection. Grass stalks and straw require nitrogen,—as night soil, Peruvian guano and other animal manures, and urine. Potatoes, turnips and roots, are benefited by lime, in any form, and ashes.

Now with these general facts before us, how shall we manage our compost heaps so as to derive the greatest advantage from them? Shall we apply them to all soils and crops alike, or shall we divide them into several parcels, and make such additions to each as will fit it for the particular field or crop to which we wish to apply it?

Shall we add to the compost we use as a top-dressing for grass, Peruvian guano, or follow it with the water cart, sprinkling the urine from the tank in the cellar? Shall we add to that which is to be spread upon clover, plaster or lime? and to that which we propose to use for potatoes or roots, superphosphate and ashes? Shall we add to that which we design to appropriate to wheat, lime and as much animal manure as we can spare? Shall we add hen manure, urine or guano to the small portion intended for our lettuce, asparagus and peas? To be sure these last will be rapidly used up in the soil; but then the crops to which they are applied, will have completed their growth, and they will be no longer wanted.

Cannot something be done in this way to increase our manurial capital, and enable us to obtain from it a larger return?

The compost heap is the farmer's bank, and it is every year becoming more important that we should make our investments in the most productive stock.

A compost heap, well fermented and worked over until it is fine and of uniform consistence, is a basis to which we may apply the results of science and observation. Shall we not, then, make experiments in this direction and observe carefully the results? We are too apt to drive in the beaten path and confine ourselves to the ruts in which we are accustomed to travel. If we would break out of the old path, and make experiments with freedom and boldness, we might sometimes achieve results that would surprise us, and learn how to use to the best advantage our scanty capital.

He is not the most successful merchant or manufacturer who commands the largest capital, but he who uses to the best advantage the capital he does command.

HAMPDEN COUNTY, MASS.

The annual meeting of the Hampden County Agricultural Society, was held in Springfield, December 16. The matter of the debt of the Society was referred to the directors. The following is the result of the election of officers:—

President—George Dwight of Springfield.

Secretary—J. N. Bagg, West Springfield.

Treasurer—James E. Russell, Springfield.

Vice Presidents—T. W. Wasson of Springfield; N. T. Smith of West Springfield; V. N. Taylor of Chicopee; George Taylor of Westfield; Sardis Gilletı of Southwick; L. H. Ball of Holyoke; William Lyman of Wilbraham; C. S. Newell of Longmeadow; Frank Morgan of Palmer; Gilbert E. Fuller of Ludlow; S. L. Reynold of Monson; Enos W. Boise of Blandford; J. W. Holcomb of Chester; J. W. Gibbs of Russell; R. H. Barlow of Granville; Wilber Wilson of Agawam; Alured Homer of Brimfield; and F. T. Moors of Tolland.

Directors—L. J. Powers, Tim Henry, H. Alexander, J. H. Demmond, and William Pynchon of Springfield; R. Brooks of West Springfield; C. L. Buell of Ludlow; William R. Sessions of South Wilbraham, and Phineas Stedman of Chicopee.

—Mr. R. Murray, who raised potatoes the past season at the rate of 350 bushels to the acre, and onions at the rate of 622 bushels to the acre, stated at a late meeting of the Waltham, (Mass.,) Farmers' Club, that he had found air-slacked lime to be a sure cure for the onion maggot.

AGRICULTURAL HONORS.

A committee appointed by the State Agricultural Society of Virginia, to offer in behalf of the Society honorary testimonials to each individual of Virginia who, previous to 1853, had discovered, or introduced, or brought into use, any principle, process or facility, or generally any invention or improvement by which important value had been gained for the agricultural interests of Virginia, have published their report. From a synopsis of this report by the editor of the *American Farmer*, we copy the following:—

General Washington in addition to his writings and the exemplification of all the maxims of good husbandry on his farms, most materially advanced the agricultural interests of the State as "the father of the system of internal improvement in Virginia."

The services of Chief Justice Marshall as the first president of the first agricultural society of Virginia are properly recognized.

President Madison, while a member of Congress, sent from Philadelphia to his farm, in Orange county, a small parcel of timothy seed.

Mr. Abraham B. Venable, while a Senator in Congress, likewise sent from Philadelphia to his farm, in Prince Edward, a small parcel of red top or herds grass.

To Mr. Ryland Rhodes, of Albermarle, is given the credit of the first hill-side plough.

To Commodore Thomas Ap. Catesby Jones of Fairfax, the introduction, as early as 1822, of the substratum or subsoil plough.

To Mr. John Murphy, of Westmoreland, the introduction of a threshing machine.

To Mr. Cyrus H. McCormick, of Rockbridge, the invention of the reaper.

Mr. John Harness, of Hardy county, was the first to practice the cutting down of Indian corn with its stalk entire, to be shocked in the field, and thus used as the food of cattle.

These are but a few of the names of which honorable mention is made in this report. Would it not be well for the Agricultural Societies and Boards of other States to appoint a committee to perform a similar duty to the memory of those men who have in various ways contributed to the improvement of the husbandry of their respective localities?

We said *duty*. Is it not policy as well? The Old Dominion has always honored farmers. The business is respectable there. We talk of its being so in New England. But somehow we fail to convince our sons and daughters of the fact. We try to make home pleasant, by furnishing our families with a variety of reading matter. We buy biographies of men who have made their mark in the professions, in arts, manufactures, commerce, &c., and then wonder that the boys and the girls, too, who read them, are dissatisfied with home life. Men have made their mark in agriculture; have introduced valuable breeds of animals; invented labor-saving implements; cultivated new fruits, vegetables, grains, grasses, &c., but as they pass from the stage they are soon forgotten.

When there were few associations of farmers in the country, and few publications devoted to their interest, this may have been unavoidable. But now, with agricultural Societies or Boards in nearly every State and county, and in many towns, we believe that something may be done towards introducing that "animating spirit of collective bodies" which the French call "*esprit de corps*," but for which unfortunately the English language has no corresponding term. It is seen in "The Members of the Bar," in "Boards of Trade," in mechanical "Unions," in college "Alumni," almost everywhere except among farmers.

It strikes us that the Virginia Society has made a move in the right direction. We commend their example to the Agricultural Boards of our Northern States.

For the New England Farmer.

FARM ACCOUNTS.

The close of the year is a suitable time for reviewing the labors of the season. The farmer, as well as the merchant, should make out his balance sheet, showing the profit or loss on the year's transactions. He should know what crops have paid best, and what kind of tillage has been most successful. This can be easily ascertained by keeping a strict account with each field of corn, grain or potatoes.

Yet very few do this. "It is too much trouble," says one; "I doubt the use in being so particular," says another; and so the greater part of farmers find *some* excuse for not keeping farm accounts. If they live through the year without getting in debt, they are satisfied. Well, it *is* a satisfaction to know that debts are not accumulating, and quite as satisfactory to know that our property is becoming more valuable in consequence of labor properly applied, and of economy in the management of our business. Now I believe that in any neighborhood, and among any given number of farmers, those who keep the closest account of their expenses will be found to be the most prosperous.

At New Year's, or at any time he chooses, let a farmer take an inventory of his stock, tools, grain on hand, and everything that goes to make up his stock in trade. Then let him keep an accurate account of the labor done and expenses paid, during the year, and give credit for everything sold. When the year is completed, let him take another inventory, and strike a balance. He will then ascertain whether his farm has been profitable or not.

How many readers of the NEW ENGLAND FARMER will adopt this course next year? I presume many do so now; but I want to have the number greatly increased, and when the year is completed, let the number be reported. If any regret the course, or find it "don't pay," let them say so, and give their reasons. Try it. Or, if you do not choose to take the whole farm, try the experiment with an acre or two of corn, or wheat, or potatoes, and give us the results. GRANITE.

Bloomfield, C. W., Dec. 12, 1868.

For the New England Farmer.

SMALL LOTS.

The advice is often given to farmers by the papers to remove all unnecessary walls and division fences so that the fields will be as large as possible for the more convenient use of the plough, cultivator, horse rake and mowing machine, besides saving the land upon which the ordinarily numerous division walls or fences stand.

There may be cases where this course can be adopted with profit. On large farms it is desirable to have large fields, especially where few animals are kept and large quantities of grain raised.

There is something very satisfactory to the eye in a wide sweep of meadow when spring clothes it in green, or when the long days of July bring activity to the hay field. Nearly all the operations of tillage and harvesting seem to be carried on to greater advantage in the large field.

But it is nevertheless true that on a farm where a mixed husbandry is carried on, there will be constant loss if there are not small lots. And although some delight to gather the statistics of the cost of fences, yet the expense should be as cheerfully borne as the expense for any other necessary purpose.

All shrubs and fruit trees should be protected by fences from the encroachments of animals, and every farm should have its fruit lot. The vegetable garden should be securely fenced. A lot should be ready in spring for the ewes with early lambs. This should be large enough to allow them exercise, yet keep them from roaming. This lot should have a shed. A lot for the calves would add to their thrift, and if it had a southerly exposure and a warm shed for hay and feed troughs it would be more satisfactory. Calves generally do best if kept from other stock till a year old. If geese and ducks are kept, a lot should be provided specially for them. These fowls are very disagreeable if permitted to run with other stock or to have access to the door-yard. Many farmers entirely refuse to keep these water fowls, because of the damage they do to growing crops, and because of their disagreeable noise near the house; yet their products are becoming more scarce and valuable every year. Mattresses may be conducive to good health and early rising; but for resting, commend me to a well ventilated bed in the farm house where ducks and geese are raised. With a lot securely fenced, and with nest-houses, the profit from geese and ducks will be more satisfactory than under ordinary management. A lot for breeding sows and young shotes will tend to cheapen pork, especially if it have a good clover sod and running water. Colts and young horses should not be allowed to exercise in yards where other stock is kept. A high smooth fence will not tempt them to jump.

There should also be plenty of material prepared for temporary fences to surround a piece of field turnips, cabbages, potatoes or corn, when it is desirable to graze some animal in the rest of the field. If posts and boards are used, sharpen the posts to drive into holes prepared with a bar. Use twelvepenny nails that have been toughened by heating to a red heat and slowly cooled, and they will seldom break, if drawn with a hammer after being driven. Stakes with boards will make strong fence without nails. There are also several kinds of panel fence and hurdles, that are so prepared that they can be put up at little expense.

In the fall of the year when lambs are weaned, bucks taken up, and the flock divided, these lots will be needed again; especially if a choice breed is kept, or if some are put up to fatten.

It is quite startling to see the statistics that show the immense cost of fences. Such statistics prove nothing in regard to their necessity or economy. Statistics could prove that shoes worn instead of boots would make a great saving; but not one man would cut off his boot legs to economize. It will often happen, where fences are removed and a large field made of small ones that serious inconveniences will be experienced. Z. E. J.

For the New England Farmer.

FOOD.

If the subject of food has not claims on the attention of New England farmers I am at a loss to know what has. With this idea, here are some of Dr. Letheby's views, from his admirable lecture On Food, which I find in the *Chemical News*. Though we live in a land of corn, and he does not, yet we may learn of him. Speaking of *Indian Corn*, he says:—

"It is one of the most extensively used grains in the world; entering largely into the food of the inhabitants of America, Italy, Corsica, Spain, the South of France and the Danubian Principalities; and, since the famine, in Ireland, it has there become a common article of food, especially when potatoes are scarce or dear; though its flavor is harsh and peculiar, and nothing but a scarcity of more agreeable food reconciles people to its use."

This last remark hardly accords with the taste of most of us of New England; yet with those not educated to its use, and who probably do not have it in its most desirable condition, but resort to a stale article, under necessity, it is doubtless true.

"The farina is peculiar when examined under the microscope, and will thus serve to identify it. The meal is rich in nitrogenous matter and fat, yet it does not make good bread. It is, therefore, either cooked by baking it into cakes, or by stirring it into boiling water or boiling milk, and thus making it into a sort of hasty pudding or thick porridge. This is the method of using it in Ireland. It is flavored with salt, or butter, or treacle. The favorite mess, called corn-lob, by the Creoles of British Honduras, is prepared with milk in this way. Indian meal mixed with maple sugar and baked into cakes, formed at one time the chief article of diet of the almost extinct Delaware Indians.

"When deprived of its gluten and harsh flavor, by means of a weak solution of caustic soda, and then dried, it forms the expensive food called Oswego or corn flour, which is so largely used for puddings. It is also mixed with wheaten flour and baked into bread, but its harsh taste is scarcely ever completely covered.

"The grain is said to cause disease when eaten for a long time and without other meal,—the symptoms being a scaly eruption upon the hands, great prostration of the vital powers, and death after a year or so, with extreme emaciation. These effects have been frequently observed among the peasants of Italy, who use the meal as their chief food, but I am not aware of any such effects having been seen in Ireland, where it is often the only article of diet."

Have any of the readers of the New England Farmer seen any such diseases or ill effects from the use of corn meal?

"The nutritive power of Indian meal is very high, and considering its price, it is almost, if not altogether the cheapest food for the poor. Calculated according to the physiological wants of the system, a week's diet for an adult will only cost about 10½ pence, and excepting split peas which are of doubtful digestibility, there is nothing approaching it for economy."

These statements are valuable because they are the latest physiological views of the subject from a chemical stand point, as far as I am aware. The variation of prices in different localities affects the relative cheapness of wheat flour and corn meal to the user. It is undoubtedly true that meal requires more "fixings" to make it palatable to the laboring man than flour,—a fact which should be taken into consideration. O. W. True.

Farmington, Me., Dec. 14, 1868.

TEXAS CATTLE DISEASE.

A convention of American Cattle Commissioners was held at Springfield, Ill., Dec. 1-3. The Convention represented thirteen States and the Province of Ontario, Can. There were thirty-six commissioners present; Dr. E. F. Thayer representing Massachusetts, and Dr. E. M. Snow, Rhode Island,—the only delegates from New England. Hon. Lewis F. Allen, of New York, was chosen president, and Dr. Snow one of the Secretaries.

The opening address was delivered by J. Stanton Gould of New York, who gave the following description of the symptoms of the disease as seen in New York:—

First, drooping of the head; a stupid, staring eye; generally rough, staring coat; usually the urine is almost black; the gait is staggering; partial paralysis of the hind limbs; spine generally arched; frothy drooling from the lips; sometimes blood in the stools; bowels unnatural, sometimes loose, sometimes constipated; occasionally rheum in the eye; the pulse rapid, often 120 beats in a minute; there is a peculiar odor detected over the flanks of the animal. When two or three of these symptoms are discovered, the introduction of a self-regulating thermometer into the rectum will determine the existence of the disease. If it shows over 103, the disease is proven to exist; if over 107 there is no hope for the animal.

The principal internal symptoms are a greenish yellow or brownish appearance of the fat and a brownish appearance of the lean; the liver generally enlarged, and cutting like lard; the spleen always enlarged and ecchymosed; it has the appearance of mottled castile soap; the kidneys vary in appearance, but generally are somewhat darker than natural when cut. The third and fourth stomachs are generally inflamed. In the many folds the digested food is found hard and dry. In the fourth stomach deep ulcerations are found. The rectum is generally inflamed. The blood is lighter than in health, and under the microscope the blood corpuscles are found destroyed, and a very large increase of water is found in the blood. A minute spore, or a cryptogamic plant, of the oidium family is found in the blood. The heart and lungs usually are healthy. The brain is generally softened, and the surface injected with venous blood. Handling the viscera is followed by smarting of the hands.

From a summary of the results of this convention prepared for the *Chicago Tribune* we copy the following:—

"The evidence from all sources, brought before the convention, confirmed the following statements, there being no doubt as to many of them: The Texas cattle are not, probably, affected by the disease in Texas. Cattle taken from the North to the Central and Southern parts of Texas, die of the disease, and a similar disease is common among the horses in Texas. Texas cattle brought north, either by water or rail, or driven on foot may communicate the disease to native cattle, but probably proper treatment while on the way would decrease the danger of such communication. Texas cattle do have the disease, and die from it, in the north, but much more rarely than do native cattle. Old native cattle are much more susceptible to the disease than young ones. Comparatively few suckling calves die from it; in some cases calves drew milk from the cows until the death of the latter, but still did not take the disease. Unless in very rare instances, the disease has not been communicated to native cattle kept in enclosures in which Texas cattle had not been. Eating where Texas cattle have grazed, drinking where they have drank, or at least, passing over the ground where they have been driven, seems necessary to communicate the disease to native cattle, although apparent exceptional cases have been known. There is scarcely a doubt that severe frosts remove danger of communication of the disease, and that after Texas cattle have been wintered in Northern States they will not communicate the disease. In very rare cases, if at all, have native cattle communicated the disease to others. Generally no evil effects are known to have followed the use of the milk or flesh of the diseased cattle. Rabbits have taken the disease from being fed on the diseased flesh. The disease as seen in New York is of a more aggravated character than in the West. The enlargement of the spleen is, perhaps, the only easily detected internal symptom of the disease which is found in all cases. In all cattle affected with this disease a minute fungus, or cryptogamic plant or spores are found in the blood corpuscles, which are disorganized. They are also found to a less extent in the blood of healthy Texas cattle, but are not found in healthy native cattle. Whether they are a cause or effect of the disease is not settled. Ticks are found on all cattle with this disease, and on at least a very large proportion of the healthy Texas cattle. Scientific men, perhaps without exception, discard the theory that the ticks cause or communicate the disease. No certain cure for the disease has been found. Carbolic acid is highly valuable as a disinfectant or a preventive, and in the treatment of the disease, but it should be used with caution, as injury results from the use of strong solutions."

The convention proposed to the Legislatures of several Western States a law to regulate the introduction of Texas cattle, and a committee was appointed to ask Congress to order a commission to investigate fully the character of the disease, on which the Chicago *Tribune* remarks:—

> The recommendations to the State Legislatures suggest regulations that, if generally adopted by the States and fully enforced, will make future outbreaks of the disease very improbable, while allowing the Texas cattle to go forward to all markets during four months of the year. They also would do much to prevent the spread of any contagious disease among domestic animals. They also contain valuable suggestions as to legal enactments to secure reform of the abuses in the transportation of animals for food, a matter of vast importance in a sanitary point of view. These recommendations will undoubtedly have a considerable effect on the legislation on the subject in several States. They will have some effect in allaying excitement in regions where loss has resulted from the disease.

A CONVENIENT POULTRY HOUSE.

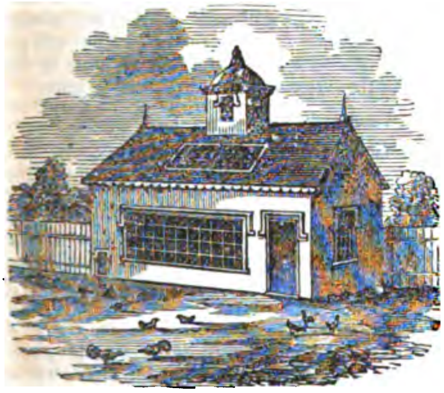


Fig. 1.

Eggs now fetch a good price in market, and we can better afford to expend a little time and money to furnish the hens which lay them with warm and comfortable quarters, than we could when eggs were worth only ten to twelve cents per dozen,—in "store-pay" or barter, at that.

The above cut represents a Poultry House planned and built by the Senior Editor of the FARMER, which may possibly afford suggestions of practical value to those who are arranging the winter quarters for their poultry, whether in a building by itself or in the barn, shed or some other building. A house or room, say eight feet wide by twelve long, will accommodate from twenty to thirty fowls, about as many as can profitably be kept together, unless they have a wider range. The front should face the south, and the yard may be on either side, as taste or convenience may suggest; but so long as the ground is bare the fowls would enjoy a range on the south, and be benefited by coming to the ground.

Figure 1, is a perspective view, and beautiful it is. Fig. 2, is the ground plan; *a*, is the doorway; *b*, the grain chests; *c*, the feeding boxes; *d*, the stairway to the loft; and *e*, a small opening for the fowls to pass out and in. The opening at the left of *a*, is the door-way, from the entry into the main poultry room. Directly over the feeding boxes there may be placed another row for nests, 3 or 4 feet from the floor, which may be examined through a slide from the entry without entering the main room. These boxes may be darkened and made a little secret, by placing a shelf along in front of them and nailing a board edgewise against it; and as Miss Biddy, like some others of the gentle sex, is a little prudish, at times, it is well enough to indulge her fancies. On a floor under the window in the roof, the fowls will find a warm place in which to congregate in the winter.

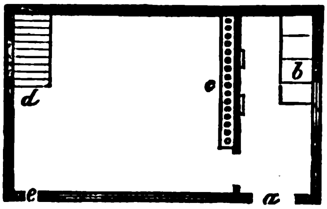


Fig. 2.

COWS IN LONDON CITY.

Thinking that the readers of the FARMER, who understand very well how to manage cows on the farms of New England, might like to know how they are kept in the great city of London, we copy from the *Journal of the Royal Agricultural Society*, the following statement by Mr. J. C. Morton:—

> Having got your cows well purchased, the point of next importance is to feed them properly. The invariable food in London cow-sheds is grains (brewers' or distillers' grains, the spent barley or other grain after being well washed or "worked out" in the process of brewing and distilling,) with mangolds and hay in winter and grass in summer. When first the cow is received into the shed, it is important that she be gradually accustomed to her new food. She should therefore receive during the first week little but green food, grass or clover, or vetches in the summer, and

mangolds and hay in winter with bran mashes, into which grains may be gradually introduced, until, as she takes to them, she may at length be treated as the others are. What this management is, I take from the statements of two men, neither of them very large dairymen, but both successful managers. Mr. Sumpton, of Little Warner street, Clerkenwell, who usually milks about thirty cows, describes his day's work as follows:—

The cowmen enter the shed at 5 A. M. and proceed to milk. In the case of the wholesale milk trade, when the milkers who buy the milk do the milking, one good man suffices for thirty cows. The cowman then only helps if necessary, at milking time, and sees that the work is thoroughly done—his main business being to feed and tend the cows. If he has any reason to suspect that a cow is not milked out, it is his duty to his master to "strip" her, for nothing injures a cow more than imperfect milking; and if he succeeds in getting another half pint from her, his master will give him 6d. or 1s. for it, and fine the dealer that amount for his servant's default. When not only milking, but serving the customers at shops and houses has to be done, three men are required for thirty cows. They begin milking at 4 A. M., and finish between 5 and 6. About a bushel and a half of grains is then given between each pair of cows, and they are partly cleaned out, and when the grains are done, a truss of hay (½ cwt.) is divided amongst 12. In the meantime the men have been serving the milk; after which they breakfast (about 8 A. M.). After breakfast time a bushel of chopped mangolds, weighing 50 or 60 pounds, is given to each two cows, and the cows receive another truss of hay among 12. The cow-shed is then cleaned out, and the cows are bedded and left. At 1 P. M., milking commences, and very much the same feeding as before, is given. At 2.30 grains are given as before, followed by the same quantity of hay, and then (and only then during the 24 hours) the cows are freely watered. They again receive a truss of hay amongst 12, and are left for the night. The grains are either brewers' or distillers' grains; the former are as much inferior to the latter in value as they are in price—the one at present costing 3d and 4d a bushel, and the other 8d and 9d.

In the case of cows in heavy milk—also in the case of those rapidly losing their milk, which must be sent to market as quickly as possible—it is common to give two or three quarts of pea-meal mixed up with the grains morning and evening, each cow thus receiving that quantity daily. And when the milking is coming to an end, for three or four weeks before the cow is sold, she may receive two or three pounds of oil cake in addition. A full bushel of grains, half a bushel of mangolds, one-third of a truss of hay, and five or six pounds of pea meal in the case of the fatting cow, are thus the daily ration in a London cow-house. The grains at 2s. a quarter, the hay at £6 a ton, and the mangolds at 20s. a ton, cost 1s. 3d. a day, and with meal or cake the daily allowance may cost from 1s. 6d. to 1s. 9d. per cow—10s. to 12s. a week.

In summer time the food is grass with grains, and meal if necessary. Most cow keepers, except the very smallest men, either have a small suburban farm, or buy a few acres of vetches, clover or grass, and cart it themselves. When it is bought daily at the cow-house, it costs from 1s. to 13d. a cwt., during the summer, and the cows receive about that quantity daily, given to them as fast as they can eat it, morning and evening, with their grains.

Of course the proper feeding of the cow after she has been well bought is the very essence of the business of the cow keeper. It is a proof of good management when she is so treated that no kind of food which she receives shall pall upon her taste. The maxim is—never "over-do" a cow with any kind of food. Some cows are exceedingly greedy for distillers' grains—they yield a very large quantity of milk upon them; but it is easy to over-do a cow with grains, and she should be always stinted of her favorite food, or she will get sick of it, as I have seen often enough in the case of this very article—distillers' grains.

DOCTORING SICK ANIMALS.

The following sensible advice on this subject is from the Illustrated Annual Register, for 1869, published by Luther Tucker & Son, Albany, N. Y. The article was written, we presume, by J. J. Thomas, the editor of the Register:—

A fine horse, belonging to the writer, once caught a bad cold, and was afflicted with an obstinate and severe cough—that he could sometimes be heard half a mile. The neighbors were liberal with prescriptions; and ashes, blue vitriol, copperas, castor oil, turpentine, glauber's salts, &c., were recommended in large quantities. The owner concluded that all these, if taken, would be quite enough to kill the animal, and it was therefore decided to give him nothing, and take good care of him. In other words, Dr. Physic was dismissed and Dr. Nurse called in. It was early in autumn; and a good clover lot furnished all the food, which, being of this succulent character, served somewhat as an expectorant. Special directions were given never to work the horse enough to cause sweating, and to blanket him carefully after working, or whenever the weather was cold. In short, everything was done to prevent any further catching cold, and to keep him at all times comfortable—giving very moderate labor. In six weeks he was perfectly well. Dr. Nurse proved his skill and efficiency in this case. If the animal had been dosed, worked hard, and treated carelessly, it is not probable that he would have recovered.

In another instance, a horse by hard usage had a bad attack of sweeney. A "horse-doctor" (so called) offered to cure him for $20, by some cutting and slashing process. The offer was declined. He finally reduced his proposed charge to only $3. Had he offered $30 for the privilege of experimenting on the animal, the offer would have been as promptly refused. A new Dutch collar was procured, and only moderate labor permitted. In a year the sweeney had nearly or entirely disappeared.

When animals are violently and suddenly attacked, it may be best to administer powerful medicines; but they will rarely if ever be thus attacked unless through hard usage. In chronic cases take good care and attend to general comfort, and nature will in time effect a cure. Be very careful to avoid those pretenders known commonly as *horse doctors*.

There is one simple remedy which may be at all times used with safety. This is fresh pulverized charcoal. It can never do any harm, and nothing restores sooner any derangement of the digestive system. Take red burning coals from any wood fire, pulverize them at once in a mortar, and the powder will be ready for use. Mix a teacupful of this powder with a junk bottle of cold water, and pour it down. Horses, cattle, and other animals, which may have been injured by over-eating, or by swallowing bad food, may be readily cured by this remedy.

There is another very safe remedy for all diseases which affect the skin, or begin on the outside, such as scratches in horses, and foul foot in cattle. This remedy is *cleanliness*. Use cold water, or tepid water, according to circumstances, adding soap if necessary. It will have an excellent effect.

Preventives are better than cures; therefore keep all animals in dry clean pastures, or in dry, well littered, well ventilated stables. Never over-work or over-feed. Attend to general comfort in all particulars—protect from cold—feed regularly, and never make sudden changes of food, and you will very rarely have a sick animal.

REMEDY FOR INTESTINAL WORMS.

The Boston *Journal of Chemistry* states on the authority of Mr. E. C. Haserick, of Lake Village, N. H.—a chemist of some note and a gentleman who has spent considerable time in investigating the habits of intestinal worms in animals—that worms in horses may be cured by simply keeping the external orifice thoroughly anointed with lard, and that this remedy will completely cure every case of worms in the intestines in one week. From his observation he is satisfied that worms in the intestinal canal cannot propagate their species without access to light and air, and he believes the prevalent idea that the parasitic ovum is deposited in the mucous follicles of the stomach and intestines, and is there developed and matured, is entirely incorrect. The intestinal cavities are not the natural breeding places for any variety or species, and the instinct of the worm leads it to crawl to the exterior orifice, and there outside the folds of the sphincter muscle the eggs are deposited and hatched. The process is a rapid one, the egg requiring but five or six hours after it is deposited to germinate and produce a new animal which at once enters the canal as its natural feeding ground and home. As the life of the worm does not exceed six days, Mr. Haserick claims that if the eggs deposited at the anus can be destroyed so as to prevent a repetition of life, the animal in one week will be entirely free of the trouble, the dead worms passing away in the fæces.

In pursuing his investigations regarding the habits of these worms, Mr. Haserick tried numerous agencies for an external application before becoming sure of the virtue of lard for the purpose. He says he has observed the worms approach the orifice, move about, and return to die, being unable to lay their eggs upon the oily surface. No internal medicine of any kind is necessary. Mr. Haserick also asserts that children can be relieved of worms in the same way by the application of lard to the anus. The severe itching in that locality is caused by the irritation of the parasites crawling to the surface to deposit the egg, and if this can be prevented so that no new families may hatch and colonize, the old ones soon die out and relief is given.

We regard this discovery as one of much importance, and although it is in complete variance with all our heretofore received authorities as to the habits and method of propagation of these worms, yet we are not the less disposed to believe it on this account, especially as the statements of Mr. Haserick are attested by many responsible parties, and his remedy has been practically tested throughout an extended neighborhood. The parasites alluded are probably those known as *Stronguli* and *Ascarides*, the former about an inch, and the latter an inch and a half in length, although the latter make the most ravages and cause the greatest irritation in the parts alluded to. The former produce extraordinary ravages in the larger intestines, and sometimes eat through important structures, though they do not produce that violent itching posterioly, that the *Ascarides* do. When this symtom with horses is noticed, we would advise an application of Mr. Haserick's remedy. Should our readers try it, we hope they will acquaint us with the result.—*Maine Farmer.*

—At the adjourned meeting of the Trustees of the Worcester North Agricultural Society, held in Fitchburg on the 16th, Samuel Osgood, of Sterling, was elected President for the ensuing year.

OBSERVE FACTS.

It is well to observe facts as they occur in our agricultural experience from year to year, so that when a sufficient number of them have been recorded, and duly authenticated, we may deduce from them some general principle underlying them, which may be of value as a guide in practice hereafter. The operation of some one or more of the laws of climate or of vegetable growth may be observed in one year more strikingly than in others; the peculiarity of the season may show the force of some law in a more marked degree and impress it more deeply upon the attention of cultivators. If any such facts have been noticed during the past season let them be recorded for use.

It has long been known that certain plants which we cultivate make their principal growth, especially their root growth, in the cooler parts of the season, as in the spring and autumn, rather than in the hot summer months. The same plants thrive best in a temperate climate, and in cool seasons rather than in hot ones.

Wheat and potatoes are examples of this kind. Wheat *planted*, (we use the term *planted* rather than sowed, for we believe wheat needs to be planted as much as corn,) in the early fall makes a good stand and a large growth of roots and then starts early in the spring and completes its growth while the weather and the ground are comparatively cool. When the weather becomes hot, and the rays of a tropical sun fall upon the ground, the roots and stem cease to grow, and the sap already formed is converted into grain. If the hot weather comes on too soon, before the sap is sufficiently accumulated to fill out the grains; or, if the sap becomes so thickened by the evaporation of its watery portion, that it can no longer flow to the heads, the grains become shrivelled, and the crop is light. This has been demonstrated in many parts of the Western wheat-growing regions during the present season. There is a good deal of complaint that the berry is light and shriveled.

So if spring wheat is sown late, and has not time to complete its growth before the heated term, the crop will be light.

Potatoes are the plant of a temperate climate, and will not thrive in the tropics. They do best in our cooler years, and they will not make much root growth in midsummer. They must be either early or late; that is, they must make their growth in the cool weather of spring, or in the early autumn. Sometimes owing to the cold and wet, they cannot be planted sufficiently early in the spring to make their growth before the hot weather comes on. Then the crop will be small. If they are planted so late that the tubers begin to form about the coming on of the hot weather, the tubers cease to grow for some time at least, and the result will probably be a crop of numerous small potatoes. If they are planted still later, so that the tubers have not formed when the heated term arrives, if there is sufficient moisture to enable them to maintain the vitality of the stem and leaf till this term is over, they will go on and form tubers in August and September, and there will be a good crop. All these facts have been illustrated during the past season, and are worth remembering.

NEW PUBLICATIONS.

HOW TO MAKE THE FARM PAY; or, the Farmer's Book of Practical Information on Agriculture, Stock Raising, Fruit Culture, Special Crops, Domestic Economy and Family Medicine. By Charles W. Dickerman, Member of the Pennsylvania Agricultural Society, American Pomological Society, and the Pennsylvania Horticultural Society. Assisted by Charles L. Flint, Secretary Massachusetts State Board of Agriculture, and other practical Agricultural Writers. Illustrated by one hundred and forty Engravings. Zeigler, McCurdy & Co., Philadelphia, Pa., Cincinnati, Ohio, Chicago, Ill., and St. Louis, Mo.

This, we believe, is the title page in full of a large octavo volume of 750 pages, which has just been laid upon our table, and think it will give the reader a good idea of the character of the work. Though the subjects are not arranged in alphabetical order it obviously aims to be an Encyclopædia of Agriculture, Domestic Economy and Family Medicine.

In addition to the difficulty of treating so great a variety of subjects in a manner satisfactory to those who desire practical information upon any particular one, the author has assumed the still more difficult task of shaping his directions to meet the "requirements of the East, the West, and the South." And here we must acknowledge that the mere general examination which we have given the work has not been sufficiently minute to warrant the expression of an opinion as to the degree of success which the author has achieved.

The volume undoubtedly contains a large amount of valuable information. The type used is large, clear and open, but we are sorry to add that most of the cuts will be familiar to those who have seen the catalogues which our agricultural warehouses and stock breeders have issued during the past ten years, and that it may be suspected by some of the readers of this stately volume that even here they still look like advertisements. Such illustrations may answer the purpose of agricultural papers, but they seem hardly up to the standard of a book which professedly avoids the "crudities" of these periodical issues.

The remark is made in the excellent introductory chapter of this work, that "the tendency of the age is to change. We may search every page, from Cato to Palladius, a period of nearly five hundred years, but there is no mention of any improvement in system, or advance of any kind, and it is doubtful if the whole of that long period added as much to the real productive power of the farmer as has been gained within the last ten years of our own history." Hence the ponderous tomes which were published only a few years ago, such as our "Farmers' and Planters' Encyclopædias," our "Farmers' Guides," our "Books of the Farm," &c., require the frequent use of the dust brush, if they are still permitted a standing place on our bookshelves. The demand is for "live publications," those that keep up with the progress of the times. Agricultural books grow old so fast now-a-days, that we fear the publishers of "How to make the Farm Pay," have been unfortunate in the form of issue they have adopted for the result of the great amount of labor which has been expended on this volume.

THE DISEASES OF SHEEP, Explained and Described, with the Proper Remedies to Prevent and Cure the Same. With an Essay on Cattle Epidemics. By Henry Clok, V. S., Philadelphia, graduate of Royal College. Berlin, and late Veterinary Surgeon-in-Cheif of the U. S. A. Published by Claxton, Remsen & Haffelfinger, Philadelphia; Nichols & Hall, Boston. Pages, 146. Price, $125.

Here is a book by the "late Veterinary Surgeon-in-Chief of the United States Army." Though we never heard of that officer before, we are bound to honor those in authority. "The chief and *only* object of this work," the author informs us, "consists in a description of the internal and external diseases of sheep, as well as of their treatment and prevention." But he soon afterwards adds:— "Another, and not the least important, object which I have in view is that the reader may be induced to form a higher opinion of the veterinary science and of its disciples than has hitherto prevailed." If this work shall inspire the public with a like confidence in its merits which its author evidently possesses, it must become a most popular book. He does not hesitate to say, "I have proved that I am fully acquainted with the symptoms, the origin and the course of the diseases," on the same page on which he speaks of the pleuro-pneumonia and rinderpest as identical.

Overlooking a little egotism, which may be pardoned in the graduate of a foreign college, and in the Surgeon-in-Chief of the U. S. A., and remembering that, as is claimed by the author, "everything related by me in the present work is the result of my own experience and observation," we may say, from a somewhat hasty examination of the work, that we think it contains much that the breeders of cattle and sheep will read with interest and profit.

"POWER OF A GROWING TREE."

A friend recently requested us to publish a little article, which has been "going the rounds" for several years past, about a filbert tree that grew up through the hole in a millstone, until it not only filled the hole, which was eleven inches in diameter, but lifted the whole stone, which was five and a half feet across and seven inches thick, from the ground and wore it like a crinoline about its trunk. As this did not accord with our observation of the growth of trees we could not believe the story, although it was admirably told by a Mr. Waterton, and gave this as a reason for declining to publish it. Its appearance in the *Prairie Farmer*, however, was the occasion of the statement by a correspondent of the following reasons why the story cannot be true:—

1. The filbert is a shrub, much like our hazel bush, only about six to eight feet high, and probably never exceeding three inches in diameter.

2. No tree ever raises an object upon the side of its trunk, because the tree only grows in length where the branches are small and young. For instance, drive a spike into the trunk of a young tree, four feet from the ground, and it will never get any higher.

SHORT-HORNS FOR NEW ENGLAND.

We learn by the *Country Gentleman* that Mr. N. B. Safford, White River Junction, Vt., in connection with Messrs. D. Russ of the same State, and Samuel Crafts of New Hampshire, lately purchased in Kentucky upwards of a dozen head of Short-horn cattle, spoken of as a very fine lot, and including the following:—

From William Warfield, Lexington, Ky., *Jubilee Oxford*, red cow, by Royal Oxford, (18774), dam Jubilee 3d. *Alice Townley*, roan cow, by Dick Taylor 5508, out of *Amelia Townley*. *Mena*, red cow, by Muscatoon 7059, Mary Chilton. *Belle*, red and white cow, by Constitution (recorded in next vol. A. H. B.) out of Adeline. *Leila Challenger*, red and white cow, by Gen. G. B. McClellan 566, dam Princess Challenger.

From James Hall, Bourbon Co., Ky., *Kentucky Duke*, red bull, by Princeton 4285, out of Cherry, by Pearse 2012. *Fanny Battaile*, red and white cow, by Willey 3d, dam Lena. *Bertha*, red and white cow, by Burnside 4918, dam Jenny. *Emily 2d*, red and white cow, by New Year's Gift 7067, dam Emily. *Geraldine 10th*, red and white cow, by Princeton (4285) dam Geraldine 2d. *Alice* 2d, red and white cow, by Dick Taylor 5508, dam

Alice. *Eda Dil*, red and white cow, by Princeton, 4285, dam Fanny Battaile.

From B. B. Marsh, Bourbon County, Ky., *Hetta*, deep red cow, by Tom Jones, dam Lady Bell. *Red Rose*, red cow, by Orphan Boy 3d, 6015, dam Rose Clark.

THE SEASON AND CROPS.

In connection with some remarks that we made a few weeks since on the peculiarity of the seasons with regard to the crops, the following statement by a correspondent of the *Germantown Telegraph* in relation to the different growths of the Early Goodrich potato are interesting to us, and may be so to many of our readers:—

> In 1866, with me, they proved very productive, but cooked wet up to the time of gathering, though shortly after they began to improve and become very fine and dry, and of excellent flavor. *Now mark the difference in* 1867. They were excellent from the very first digging and continued so all through the summer and winter, the yield being a bushel to every 33 feet, sets planted a foot apart in the rows, rows three feet apart. In 1868, this variety proved deficient in quantity and watery in quality, yielding about one-eighth less than in 1867. The early planting, owing no doubt to a very hot spell about the time they were two-thirds grown, caused them to take a second growth, and they grew very knobby; while those planted later grew quite smooth. This variation in shape, quality and productiveness I ascribe to the past unfavorable season. I now find, however, they are improving in quality, and I trust will soon come up to their old standard in quality.

SALES OF IMPROVED STOCK.—We learn from the *Country Gentleman* that Mr. William Birnie, Springfield, Mass., has recently sold the following Ayrshires: The five-year-old cow *Topsy*, to Chas. T. Hubbard, Boston, for $400; the two-year-old heifer *Mysie*, to S. M. & D. Wells, Wethersfield, Ct., for $300; the six-year-old cow *Jessie*, to Geo. H. Taft, Framingham, Mass., for $250; the bull *Johnnie Groat*, to the Messrs. Fairbanks, St. Johnsbury, Vt., and the bull *Dugald Grant*, to S. L. Warner, Lanesville, Ct.

Mr. Sherman Hartwell, Hedge Lawn, Washington, Ct., has sold the following Cotswolds: A ram lamb and ewe lamb to J. M. Carnochan, New York; a two-year-old ram and two ewes to J. M. Walker, Worcester, Mass.; ten ewes with lamb to Mr. Bull, Plymouth, Ct.; one ram and ewe to Chas. Stoddard, Naugatuck, Ct.; a ram lamb to A. C. Smith, New York, and another to Isaac Hart, Bristol, Ct.

Governor Claflin of Massachusetts has presented to Frank D. Curtis, President of the Saratoga County Agricultural Society, a Jersey bull, fawn and white, with black tongue and white tail, from his celebrated cow Flora, sired by Mr. Payson's best bull.

For the New England Farmer.

HARVESTING HAY AND GRAIN IN ENGLAND.

Fancying that a little more minute description of the mode of making hay and stacking it in England than that given in the FARMER of Oct. 3d, (MONTHLY p. 515) may be interesting to some of its readers, I beg to give it, with a few additional remarks on harvesting and stacking grain.

Having been raised on the banks of the "Severn," and within five minutes walk of its stream, I am obliged to differ in opinion from the correspondent of the *Country Gentleman*, from whose article you quoted. He is rather too hasty in his description of the process of hay making and wind cocks, and slightly mistaken in some of his other statements. He speaks of farmers of 300 acres of meadow land having only "one team." If by this expression he means one pair of horses, as it is generally understood in this Western country, the statement is entirely erroneous.

A farmer of 300 acres of meadow land on the banks of the Severn, or on the banks of any other stream in England, could not possibly, under any circumstances whatever, get possession of a farm of 200 or 300 acres of meadow land if he had only one team, unless it was in the County of Cheshire, where the land is almost exclusively devoted to grass. The principal river in that county is the "Dee."

Farms in England with 300 acres of meadow land usually have a quantity of arable land also. To be able to rent such a farm the farmer would be obliged to have not less than from five to nine horses of heavy draught, and weighing from twenty-two to thirty-five cwt. per pair, seventeen or eighteen hands high, and wearing shoes of from 5½ to 7 lbs. weight each.

The grass after being cut is run through with a Horse Tedder. It is then raked into small rows the full length of the field. It is next thrown into small wind cocks, which are turned over once or twice. It is then shook open and afterwards raked into large rows, and frequently by women, men following and throwing it into large wagon cocks, in straight lines; but on *no account*, nor under any circumstances, would a man get upon the cock to make it, nor does it stand in the field for a few weeks in the cock. It is not reasonable to believe that any farmer would leave his hay unstacked for weeks after it is sufficiently made to stack. Its goodness and nutriment would naturally sweat and dry out. It must be remembered that it takes a longer time to make hay in England than it does here. The weather there is not so hot as here. The last summer was an extraordinary one.

In England they put under the hay stack a quantity of briars or hedge bushing, covering all the ground on which the stack is build, so that not a particle of hay is lost. When making the stack, a four-bushel wheat-sack filled with hay and with a rope attached to it, is placed in the centre at the bottom, and as the rick progresses the bag is pulled up little by little, forming a kind of chimney in the middle, which admits a current of air to pass up through the stack under the briars. Such ricks or stacks never fire of themselves, even if the hay is a little damp when stacked. After a few days the rick is thatched with about six inches of long straw thrashed with a flail. To put this on neatly requires much skill, and a good thatcher always can command good wages.

The *Country Gentleman's* correspondent really must have forgotten himself when he talks of two men and a boy getting home and stacking the "Severn bottom" hay from 300 acres. The statement is preposterous. One man on the wagon and one man to pitch up! Who, then, drives, and who uses the ellrake: and where is the stacker? It is true that all farmers' teams are driven by *word of mouth*, but it requires the wagoner to drive, whose sole business it is to attend to the team, which generally go one before the other with chain traces. Reins are not used. A farmer's narrow wheel wagon with whipples will carry from three to four tons of old hay. How long a time would it take two men and a boy to haul home the hay from 300 acres? And what farmer with a grain of common sense would risk so much hay to the casual chances of the English climate, where lots of men at half a crown or 3s a day,—about 75 cents,—can be got easily?

Harvesting Grain.

In England, until within a few years past, wheat was always cut with a sickle or the Welsh broad-hook. Barley and oats are generally cut with a scythe—like grass,—and turned over with a rake and not bound as wheat is. Both are stacked as hay, but it is done on "stools." These stools were formerly made of stone, in the form of a sugar-loaf, but now they are made of iron. They are portable, and in shape resemble a candlestick turned bottom upwards, having a round smooth iron plate on the top. Wheat stacks are generally made round. There is one stool or pillar in the middle and several on the outside, with iron bars from each outside pillar to the centre one, on which the grain is stacked. The pillars are about two feet and six inches high, so that no rat or mouse can get up into the rick. The stack is narrow at the bottom and continues to widen as it gets up to the eaves. The roof is steep and so well thatched that some of the "*holders-back*" can keep their grain dry and in good order for several years, waiting for higher prices.

After the wheat stack is settled it is thatched and trimmed smooth all round with a large pair of shears, and is so smooth and solid that a mouse or rat cannot bore its way in without cutting it, and a bird can hang on the outside little better than on an upright wall.

Barley and oats are stacked on stools, but not being bound are not trimmed so nicely as wheat. The advantages of stools are, that cats and boys can have free access under the stack, and they prevent rats and mice from ascending.

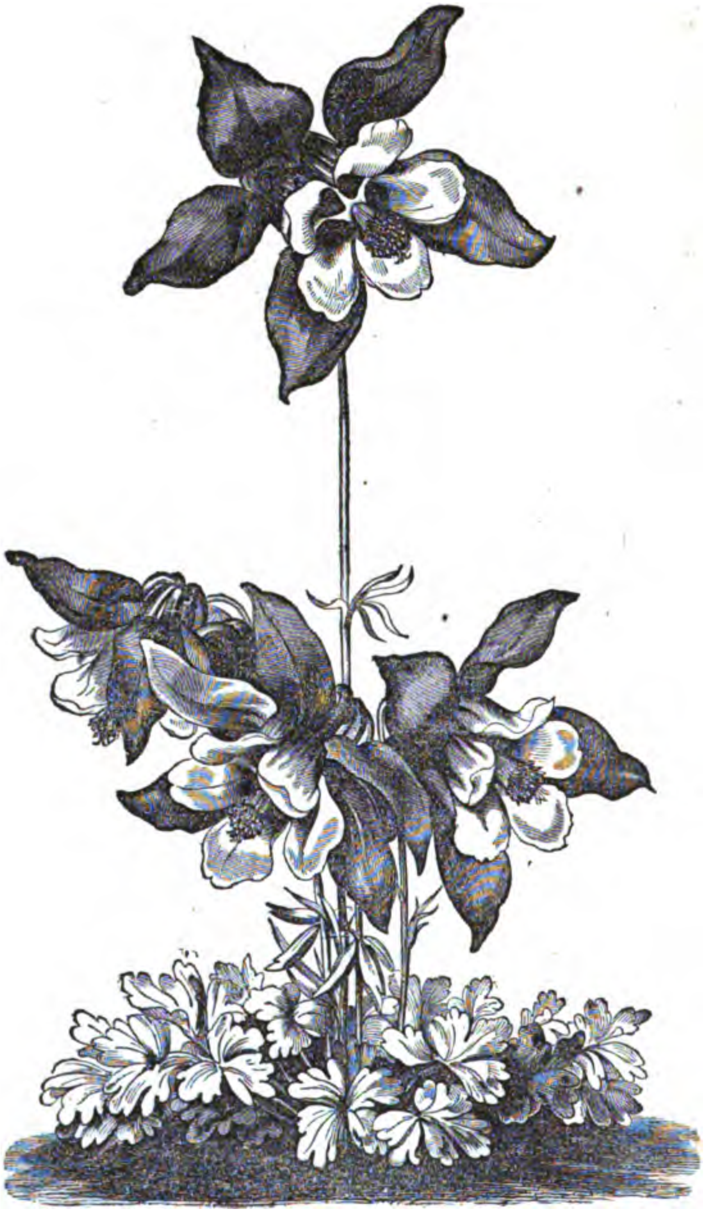
Whole fields of sweet turnips are thatched in England. The roots are topped, tailed, and stacked in heaps, like the iron cannon balls at the Tower of London and other arsenals, and these are thatched with hand-thrashed wheat straw. Thousand of acres of swedes, turnips, mangolds, and grey peas and beans, are grown most extensively, and are employed in stall feeding. Roots are mingled with chopped hay, oil-cake, beans, and grains from the brewery,—the last not largely used. A great deal of farinaceous food is now used there, but it does not make any better beef than the old fashioned food.

I beg to enclose you an ear of winter wheat grown on the banks of the river Severn, received in a letter from the Old Country, which you can compare with that grown in your own section. Pardon me for taking up so much of your time and room. John Whatmore.

Bridgenorth Farm,
Dunleith, Ill., Dec. 4, 1868.

Remarks.—We remember of hearing, when a boy, some old farmers talking about the growth of wheat in England, and the remark of one man that the heads were often so close together in the field that mice would run along on them like squirrels on the branches of trees. But we believe we have never before seen a *bona fide* head of English wheat. It is beardless, four inches and a quarter in length, and on comparing it with the illustrations given in Mr. Todd's American Wheat Culturist find it resembles the cut of the Deal Wheat, but is a trifle longer, being of the exact length of the drawing of Hallet's Pedigree. The straw is very clean and bright, the ear well filled and altogether it is a very handsome specimen of wheat; for which, as well as for his communication, Mr. Whatmore will accept our thanks.

—Worsted, it is said, was first spun at a village of that name near Norwich, England; cambrics came from Cambray; damasks from Damascus; dimity from Damietta; cordovan from Cordova; Calico from Calicut; and muslin from Mosul.



AQUILEGIA GLANDULOSA, OR COLUMBINE.

Our native Columbine, or Honeysuckle, as it is often called, is well known and generally admired. The above cut represents a newly introduced species from Siberia. "This plant," says Mr. Breck, "is more dwarfish in its habits than the common Columbine, the leaves are more finely divided; it is about one foot high, producing its beautiful flowers in June. The flowers are large and rich sky-blue; the inside and margin of the corolla pure white. It is one of the most desirable of the genus, propagated from seeds, or by dividing the roots soon after flowering and not in the spring. The Siberian plants are protected by the deep snows of that climate, and our open winters are fatal to many plants from that region, and I once lost a bed of this elegant flower from too much exposure. It should be kept in a frame through the winter, or otherwise protected, if not covered by snow."

For the New England Farmer.

FISH AS A MANURE.

About thirty years since a few individuals purchased a seine for the purpose of catching menhaden which were at that time very numerous in the vicinity of Nantasket Beach in the town of Hull. For a few years large quantities were caught and sold to the farmers in this vicinity; the price charged, when taken from the beach, being one dollar per thousand fish, the weight of which was a trifle less than one pound each.

My father purchased considerable quantities, and tried a variety of experiments. In some cases the fish were spread on the land and ploughed in immediately; the next spring the land was harrowed and planted with Indian corn. One piece was sown with winter rye soon after the fish were ploughed in. Both crops satisfied my father that fish was an excellent fertilizer for his land.

A compost was made of sand, muck and fish, using about 1000 fish to a cord of sand and muck. This made a very valuable fertilizer, as a top-dressing for grass, or for any hoed crop. There are but few fertilizers that I have ever seen that force almost every kind of vegetation to such a degree as a compost made of fish. But I regret to say that owing to this very fact farmers in this vicinity were very much prejudiced against its use, believing that it forced all the fertility out of the soil, and, as they termed it, "killed the land." This prejudice was so deep that no amount of arguments or facts could remove it.

To give the fish a fair test, I put some on a small piece of poor sandy land and for seven years permitted the land to lay without manure or cultivation, but at the end of seven years it could readily be seen where the fish were spread. Yet I have my doubts if with this evidence I changed the opinion of a single individual who had previously made up his mind on the subject. It is very much to be regretted that farmers, like those who follow other occupations, form too hasty opinions, and when formed, are unwilling to change them, even though carefully tried experiments prove them to be erroneons.

There is no doubt that the flesh of the fish is soon absorbed by the surrounding vegetation; but the bones make one of the most lasting fertilizers within the reach of the farmer. I have seen stalks of rye more than twice the usual size grow where only one-half a gill of bone was put in the hills of corn the year previous.

The value of fish as a manure was well understood by the Pilgrims. The report of Isaac D. Raisiers, who visited Plymouth in 1627, contains the following statement:—"At the south side of the town there flows down a small river of fresh water, very rapid, but shallow, which takes its rise from several lakes in the land above, and there empties into the sea, where in April and the beginning of May there come so many herring from the sea which want to ascend that river, that it is quite surprising. This river the English have shut in with planks, and in the middle with a little door, which slides up and down, and at the sides with trellis work, through which the water has its course, but which they can also close with slides. At the mouth they have constructed it with planks like an eel pot, with wings, where in the middle is also a sliding door, and with trellis work at the sides, so that between the two (dams) there is a square pool into which the fish aforesaid come swimming in such shoals, in order to get up above, where they deposit their spawn, that at one tide there are 10,000 to 12,000 fish in it, which they shut off in the rear at the ebb, and close up the trellises above, so that no more water comes in. Then the water runs out through the lower trellises and they draw out the fish with baskets each according to the land he cultivates, and carry them to it, depositing in each hill three or four fishes, and in these they plant their maize, which grows as luxuriantly therein as though it were the best manure in the world; and if they do not lay this fish therein, the maize will not grow; so that such is the nature of the soil." E. HERSEY.

Hingham, Mass., Dec. 22, 1868.

FARMER OR MERCHANT.

We copy the following paragraphs from an article in the *Germantown Telegraph*, written by J. Wilkinson, Esq., of Baltimore, Md., who addressed the Board of Agriculture at its late meeting at Amherst, and whose personal acquaintance we had the pleasure of making on that occasion. Mr. Wilkinson's business as Landscape Gardener and Rural Architect, has afforded him rare opportunities for a personal observation of the advantages of city and country life. He says:—

Some seventeen years since the writer took from a situation as porter and salesman in a village grocery, a young man of promise, of the age of nineteen years, who had sagacity sufficient to be able to compare the chances of success in merchandizing and in agriculture, and see that the latter presented much the greater promise. He commenced as a farm laborer, at the common wages of the farm-hand, and made his employer's interest his interest, spent his evenings in reading agricultural journals and other reading devoted to the art to which he had determined to devote his life. He remained three years, and had his salary annually increased, which he well earned, when he went away to the State of Georgia, to take charge of a larger plantation, in which situation he remained but a few years, when he purchased and stocked a fine farm of several hundred acres, on which he still lives, and lives as only the farmer out of debt can. The firm he left in the grocery business have since failed, and one of them has failed twice. What a contrast!

How many young men have the same opportunity to-day, and how happy would it be for them if they would only embrace it.

The mistaken, delusive idea that it is more respectable and the chances of success are greater to the young man to take the position of porter, or lacky in a mercantile house in the city, with hope of becoming a salesman, or book-keeper, and finally a merchant, instead of taking a situation as a farm-hand where, with the same industry and application that would secure only a living in the former, he might in a few years become competent to take charge of a large and productive farm, which he could take on shares, without capital, and with a great degree of certainty he could in ten or fifteen years save enough to stock a fair farm and make a payment that would number him among that most enviable class of men, known as lords of the soil.

If the youth reared in the country could only see behind the tinsel curtain that conceals so much genteel misery in the city, he would shun it as he would a viper, and would return to the land of his nativity with the firm resolution to make the country his place of abode and field of labor for life.

If the writer with his experience with life in the "country which God made," and the city, the work of man, had a dozen sons to locate in business, he would certainly settle twelve of them on a farm, and the other one too, if it were a baker's dozen. Not one of them should come to the city by his consent, to take the one in one hundred chances of success there offered.

SHEEP ON THE FARM.

In the *Farmer* of Dec. 5th, I noticed an article entitled "Sheep Beneficial to a Farm." There are those who would take issue with you on this subject, and stoutly maintain that the keeping of sheep tends to impoverish a farm. I know a good many farmers who affirm that their own and their neighbors' farms in this vicinity have been rendered less productive by reason of the change from keeping cows to keeping sheep.

Several years ago, I changed the stock on my farm, from cows to young cattle, and then I changed from stock growing to sheep. I was prompted to this, from the failure of most kinds of grain crops upon the farm. My land had become so infested with wire worms that corn, oats and potatoes were almost a total failure upon all the fields upon the farm, and timothy grass would not do well more than a year or two after stocking down a new piece. The worms would bore into the bulb of the grass, and it was killed at once.

I began to keep sheep, and when a piece of meadow began to fail, I had the sheep put upon it for two or three years, in numbers as great as could be well supported for a given time. When fed down close, they were turned off for a time, and when the grass had sprung up fresh, they were returned. On the fields thus treated for two or three years, I now succeed in raising corn, potatoes, oats, wheat, and no interference whatever from wire worms. On a field of two acres thus treated for two years, and last year put to corn and potatoes, I do not think that a single stalk of corn was injured by any kind of worm, although told by neighbors that I would loose my work in putting in crops on that field. No better corn or potatoes need be raised than were grown upon this field. Another field treated in the same way and put to corn the present season, has given results about as satisfactory.

My theory for this is, that the cutting and stamping of the sod by the feet of the sheep destroys the worms, and the fly that deposits the eggs, and the eggs themselves, to a very large extent, thus ridding the land of this destructive pest. Am I right in this?

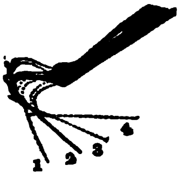
When I was a small boy, my grandfather kept a good many sheep, and he raised a good many turnips of the flat variety. His process was this: a few days before the time for sowing his turnips, he would plow over his field, drag and roll the same till thoroughly pulverized and smooth, then he would yard his sheep upon the field for several nights. If his land was not over rich, he would have his sheep upon the field every night, when dry, for two or three weeks before sowing. When ready to sow, he would scatter on the seed, first going over the ground with his harrow, then he would continue the sheep on the field until the turnips began to come up. I never knew him to fail of a crop. His theory was that keeping the sheep on his turnip field so long before putting in a crop, rid the land of the turnip fly, so destructive to the crop when young.

I am strong in the faith that sheep are a good thing on a farm, even if wool does not sell at more than forty to fifty cents per pound, and shall continue them on my farm, as long as I am of my present faith.—*Ohio Farmer*.

—Mr. Samuel Thorne, Thorndale, Duchess Co., N. Y., has sold his entire flock of South Down sheep to Adin Thayer, Jr., Hoosick Falls, Rensselaer Co.

EXTRACTS AND REPLIES.

PLUMER'S ADJUSTABLE HOE.



The peddler's recommendation of his suspenders, that they were long enough for any man, and short enough for any boy, was recalled to our mind as we received, in the early part of last summer, an implement of which the annexed cut is a representation.

At first we thought it was one of those things that are "more nice than wise;" but as our motto is to "try all things and hold fast to that which is good," we took it into the garden with us and went to work. After using it awhile we moved the blade into all the positions it is intended to assume, and found that we could set it exactly to suit our height. We set it for levelling the soil, for cutting up weeds, &c., and soon became satisfied that a hoe needs a particular "pitch" for each of these purposes.

It therefore seems to us that the claims of the inventor—who is also well known for his important improvements in lasts for boots and shoes,—as stated in his printed circular, of the advantages of an adjustable hoe over the common one, are well founded. In our opinion that this new arrangement in a small but most important agricultural implement is a step in advance, we find that others coincide. Dr. Geo. B. Loring, President of the New England Agricultural Society, says: "The idea of making the hoe adjustable to different statures, and for different purposes, seems theoretically correct, and I have no doubt it is practically so." Our correspondent, William Bacon, of Richmond, having tried the Adjustable Hoe the past season for all the purposes to which a hoe is usually applied, calls it a "perfect instrument." He says, "by adjusting it to the height of the person using it, he may hoe his crops through all the long June day *without back-ache—without fatigue*. There is no need of a Grecian bend in hoeing now, but the person employed may stand as *straight* as an *Indian* and do a good day's work. Taking all things into consideration, they are cheaper at $1.25, than the common hoe at 50 cents."

Others who have used it, speak of its merits. Mr. Fred Phinney of Windham, Me., after using the adjustable hoe a *good deal* and *hard*, the past season, says: "I find it perfectly durable and strong. By adjusting the blade to the different uses I can do one-quarter more than with the common hoe, enough to pay the cost of it in three days. This is, I am aware, a strong statement, but it is correct. Its superiority is the more apparent when one attempts to use the common hoe, after using the patent."

As an instrument to cut up corn, Mr. W. L. Larrabee, of South Windham, Me., says that "with the Adjustable Hoe, when set right, I can cut up corn much easier, without stooping, and at least one-third faster, than with any corn-cutter I ever used, and would purchase one for that purpose alone. For other purposes the hoe has proved firm and durable, and all that is claimed for it."

COARSE AND FINE WOOL SHEEP.

I notice a communication in the FARMER of Nov. 28, from L. D. Corliss, of Orford, N. H., in which he says that his experience with fine wool sheep has been different from mine; and that he has found the Merinos very quiet and orderly,—more so than the coarse wools.

I have recently seen most of the best flocks of coarse wool sheep in Franklin county and have conversed with their owners. I might speak of many breeders, but will only mention T. W. Gordon, Farmington Falls, and Elijah Wadsworth, Livermore Falls, both of whom have coarse wool flocks. The sheep of both these farmers are perfectly domesticated, run in pastures with *poor* fences, and are always at home, and are quiet in their habits. In fact, I may say that I have not seen a coarse wool breeder in this county, who is not perfectly satisfied with his sheep in this respect, nor have I ever heard any of "the neighbors" making any complaint of the encroachments of these sheep, although many of them still favor the Merinos and are prejudiced against the coarse wools, as I fear friend Corliss is. Many of these flocks are pastured so far from home that their owners see them but seldom after they are turned away in June. Yet no trouble is anticipated and seldom any occurs in finding them where they were put. In my travels through the county I have almost invariably found better fences enclosing the pastures of the Merinos than there are around those in which the coarse wools run. I also find that there is considerable inquiry and discussion on this subject among farmers in this section, and that there is a rapidly growing preference for the coarse wools. ZEN.

Franklin County, Me., Dec., 1868.

FAILURE OF SCIONS IN MAINE.

In reply to my inquiry through the FARMER for the cause of the failure of scions in Maine this season, "J. W. G." says the trouble was probably in the scions or in setting them. I think it was not in setting them, as I have set more or less every season for twenty years past, with good success till the past spring. My scions were properly taken care of after they were cut, and were set with usual care and in thrifty young trees, yet one half of them died, and those that did live had a sickly look. Other experienced grafters in this vicinity had no better success. A gentleman in Kennebec county, who has had thirty years' experience in the business, setting some years as many as eighty to one hundred thousand scions, estimates the loss in that county at sixty per cent. He thinks the scions were winter killed before they were cut, and recommends that they be cut before severe cold weather and packed in sawdust.

East Jay, Me., Dec. 7, 1868. JACK.

SORE TEATS IN COWS.

When cows calve in cold weather their teats are quite apt to be sore, caused generally, I think, by their being wet with milk. When the calf sucks, the teats are sure to be wet, and some persons when they commence milking always wet the teats with milk the first thing. As far as my experience goes this always makes them sore in cold weather. The best preventive is to wash the teats thoroughly with cold water as soon as the milking is performed. The best remedy that I know is a mixture of tar and lard melted and stirred together in such proportions as not to be very sticky, and applied once or twice a day.

Cabot, Vt., Dec. 7, 1868. C. M. Fisher.

CHURNING MILK.

Can you or any of your numerous correspondents tell me anything about the churning of milk for the purpose of making butter? Can it be made practicable and profitable? If so, it will remove one serious objection to keeping dairies—that of the great amount of labor required. If the milk can be churned by horse or other power, it would save a great deal of hard work.

Cornwall, Vt., Dec. 21, 1868. N. B. Douglas.

Remarks.—The idea of churning the whole milk in the manufacture of butter is not a new one. We believe that it has long been practiced in some of the dairies in Holland. Over thirty years ago we saw the apparatus by which the milk was churned by a farmer in Michigan who sold butter to regular customers in Detroit, but we did not learn the particulars of the process. But we remember that some of the neighboring dairy women spoke of it as saving much hard work. In an agricultural address by J. Stanton Gould, President of the New York State Agricultural Society, we find a statement that may be interesting to our correspondent, although we feel obliged to say that we regard the writer as taking very strong ground in favor of churning milk. The fact that so few dairymen adopt this process is sufficient in our minds to qualify any very sanguine anticipations of the superior advantages of that process.

Mr. Gould says that James Toller, of Oswegatchie, N. Y., the township in which the village of Ogdensburg is situated, strains his milk into churns, and when sour, but before it is loppered, churns the entire mass. On the 10th of September he strained 208 quarts of milk into pans, and when the cream had all risen it was skimmed off and churned. The amount of butter obtained was 17½ pounds. On the ensuing day he strained 208 quarts of milk into churns, which, as soon as it became sour, he churned and obtained 19¼ pounds of butter. This is a fair sample of a great number of experiments on record, which are intended to test this question. Mr. Toller's experiment shows that 10 per cent. more butter was obtained by churning the entire milk than when the cream only was churned. Experiments vary with respect to the percentage more or less, but every carefully performed experiment that I have seen myself, or that has been recorded, demonstrates that from eight to twelve per cent. more butter is obtained by churning the entire milk, and it is equally certain that as a whole its quality is better, its flavor more delicate, and it will keep longer without change. The labor of churning so large a mass is indeed greater, but when this operation is performed by water power, or by animals, this is of no consequence; on the other hand it supercedes the labor of skimming the milk and washing the pans, which make no inconsiderable items in the labors of the dairymaid. I think there can be no doubt that this is the best mode of making butter, both with respect to economy of labor and to the quantity and quality of the butter.

In "Milch Cows and Dairy Farming," Mr. Flint says, "in some sections the milk is churned soon after milking; in others, the night's and morning's milk are mixed together and churned at noon; in others, the cream is allowed to rise, when the milk is curdled, and cream, curd and whey, are all churned together."

If any of the readers of the Farmer have had experience in making butter from the whole milk, we hope they will respond to the request of Mr. Douglas.

"GILT-EDGED BUTTER."—HOW TO MAKE GOOD BUTTER.

The inquiries and remarks about "gilt-edged butter" in the Farmer of December 26, reminded me of a little story I once heard of an old Quaker, who sent his two daughters to hear a lecturer who had acquired a "gilt-edged" reputation. After listening attentively to the flowery discourse, the girls went home. As customary the father inquired about the lecture, and asked his daughters what valuable information they had gained. After a moment's hesitation, one of them exclaimed,

"Oh, Pa, if you could have been there! Mr. —— was the most splendid looking man we ever saw; he wore pretty diamonds, had a foreign air, and said so many *beautiful* things that we can't tell one word about it."

The old Quaker very gravely replied, "Well, well, children, thee had better stay at home hereafter, and not attend any more lectures which are too beautiful to be useful."

I suppose "gilt-edged" butter, like the lecture, is so beautiful that nobody can tell anything about it. Just as likely as not it is nothing but butter of a very good quality. I hope not one of the neat, tidy women in Vermont, or in any other State, will think they cannot make nice butter, because they are not able to produce this indescribable, genteel, "gilt-edged" article.

I advise the consumers of the "gilt-edged" butter of Faneuil Hall, not to crack up their indescribable commodity too high, for we poor farmers' wives, who live in rickety houses, do our washing and scrubbing, mind our own healthy babies, sometimes think that we eat just as good sweet, wholesome butter of our own making, as that enjoyed by those who live in marble palaces and pay the "gilt-edged" prices of a fancy market-man,—butter, too, that is made by a process that can be described and taught to our daughters. That it requires care and neatness, we are perfectly willing to admit. When I milk our cow, which I often do, I am very careful not to get any chaff or other barn dirt into the milk pail. As soon as possible after the milk is drawn, I strain it into well washed and scalded tin pans, filling them about half full. I set the milk in a clean, cool room where nothing else is kept. When the milk has yielded all its cream, I skim it off and deposit it in a tin pail. In warm weather I hitch a rope to the pail, and let it down part way into the well. Every time I put cream into the pail I stir it gently. When a sufficient quantity is accumulated, generally once in three days,—as I don't think cream ought to be kept over that length of time in warm weather,—I put it into a clean churn that has stood with cold water in it over night. Sometimes I throw a handful of salt into the cream. My butter always comes quick enough. After draining the buttermilk from the churn, I put half a pailful of cold water into the churn, then turn the crank back and forward a few times, and draw off the water. This is repeated again, when I remove the butter from the churn with a wooden paddle to a tray half full of cold water. I sprinkle salt into the water, and work the butter over with the paddle, pouring off the water and adding more until it is free from buttermilk. I then salt it, and if I want a little extra touch I add one large spoonful of white sugar to each pound of butter. The next morning early I put it up in plain lumps or lay it down in a vessel. During the whole process I never touch it with my hands.

From November 15, 1867, to May 15, 1868, I made and sold $40 worth of butter from our cow, which was then farrow. Our family numbered four, and we used all the butter we wanted. The butter sold more than paid for the cow, and the milk and butter we used we thought paid for her keeping. MRS. TRASK.

Reading, Mass., Dec., 1868.

A FARMER'S EXPERIENCE AND CONFESSION.

The deep interest which, from boyhood, I have taken in agriculture, and the great number of experiments which I had tried and seen tried, make me often, when reading agricultural papers, feel a desire to furnish an item or two; but the constant flow of business so completely occupies my time that I have been compelled to forego this pleasure. The saving thing about it, however, is the thought that the public do not lose much by it.

——, *Dec.* 20, 1868. —— ——.

REMARKS.—The above, which closes a business letter recently received, expresses, we have no doubt, the experience of many who read the FARMER. But we cannot endorse the remark that the public do not lose much by the neglect to "furnish an item or two" from personal experience and observation, or by way of comment on the "items' which others furnish. Another farmer in sending us a communication, closes with the playful remark, "I can talk it, but you see I can't write it." Here, then, is the trouble with farmers. They have little time to write, and when they do attempt to write they fear it will not do to let it go just as they would "talk it," and so get snarled up in their attempt to "write a composition," or to spell every word just as the dictionary does. Let the spelling and the grammar take care of themselves. Plant the facts firmly on the paper, just as they come to mind, and leave the "office editor" and the printers to fix the spelling and syntax. In this way you can save time, and furnish facts and suggestions that will instruct and interest others.

ROOTING LIMBS OF TREES.

A few weeks since there was a man in this neighborhood exhibiting a limb of an apple tree, on which he had induced to grow, during the past season, a bunch of small fibrous roots as large as a peck measure, by a process which he claimed to have discovered. He said he could take any limb or any number of limbs from a favorite tree, or any tree in bearing condition, and grow roots on it in one season, when it can be taken from the parent tree and set in the ground without checking its growth or bearing capacity. If this can be done every time, and he said it could, it must be quite an advantage to those who wish to get an orchard in bearing immediately. I would like to have the opinion of experienced fruit growers in relation to this discovery published in the FARMER.

ONE INTERESTED.

North Boscawen, N. H., Dec. 20, 1868.

REMARKS.—Grape vines, quinces, and several other vines, shrubs, &c., are propagated by bending down and covering a branch with earth; and it is possible that by some process apple tree limbs might be made to throw out roots, but we should doubt the practical utility of the process. Many plants will root very freely; others require more care. Sometimes the shoot is slit with a slanting cut, one-half or two-thirds of the diameter, and sometimes a narrow ring is taken from the bark of the part buried in the earth.

ANOTHER CURE FOR SCRATCHES.

I send you a receipt for the cure of the grease or scratches, that I have tried, and found to cure. It is this:—one pound of Epsom Salts, one pound of Sulphur, one pound Cream of Tarter, and four ounces of Saltpetre. Pulverize the Saltpetre, mix all together, and give the horse three large spoonfuls at a dose in the feed, moistened, for three mornings; then skip three. Nine doses, cured a very bad case for me. I tried many outward applications, but it still grew worse until I tried this and then it got well. The cause of the disease is in the system, and outward applications are not sufficient to cure. I have made a practice of feeding a little of the medicine at times since, and have not had a case since I used the medicine two years ago. A SUBSCRIBER.

Georgia Plain, Vt., Dec. 14, 1868.

BITING HORSES.

I have a fine mare six years old, which has a bad habit of biting. Although we raised her, she never showed any signs of a disposition to bite before this fall. The habit appears to be growing upon her. Is there anything I can do to stop it? I noticed worms in the manure this morning about an inch long, which I supposed to be pin worms. What is the best thing to give for the worms? Do you think the worms have anything to do with her being cross? If you will answer these questions through the columns of the NEW ENGLAND FARMER you will greatly oblige a

YOUNG FARMER.

West Brookfield, Mass., Dec. 12, 1868.

REMARKS.—We have never owned nor driven a horse seriously addicted to this bad habit; but we have known of animals which were not safe without a muzzle. When once the habit is firmly established we know of no cure. If any of the readers of the FARMER do, we hope they will respond to Young Farmer's request. Here, as elsewhere, an ounce of prevention is worth a pound of cure. Biting is usually the consequence of natural viciousness, or a habit induced by the teasing of boys or thoughtless men. Mr. Stewart, in his "Stable Economy," says, "I have seen biters punished until they trembled in every joint, and were ready to drop, but have never, in any case, known them cured by this treatment, or by any other. The lash is forgotten in an hour, and the horse is as ready and determined to repeat the offence as before. He appears unable to resist temptation, and in its worst form, biting is a species of insanity." Mr. Youatt says, "kindness will aggravate the evil, and no degree of severity will correct it." He, however, recommends the Rarey system for training vicious horses, with straps, &c. After the horse is down, he says the operator should confine his treatment to lifting the head, bringing it close down to his own body as he sets upon his shoulder, and forcing both of the jaws into immediate and repeated contact.

When we consider the danger from this habit, it is surprising that so many will tickle and pinch horses merely to see them resent the indignity. Such horse-play should be carefully avoided by every one that has anything to do with a horse, unless it is desirable to educate him into absolute viciousness.

KICKING COWS.

I think I can give our friend who is plagued by the kicking cow, advice that will be of benefit to him. My practice is,—when kindness and gentle means fail, which is rarely the case,—when the cow attempts to kick, to grapple the leg just above the gambrel joint, and lift it as high or higher than her belly, straight backwards; having first made arrangements so that she cannot wheel round from me. In this position I hold it till she gives up struggling, then let it down. After a few trials the slightest touch on her thigh will remind her that she is perfectly under her master's control, and will generally become as gentle as a lamb.

The idea of holding a kicking cow's leg by main strength may appear somewhat Samsonian to those who have never tried it. But if the leg is grasped firmly and lifted at once high enough, they will find no difficulty in doing it. In a case like his I should stand by the side of the cow, place my left hand firmly on her thigh and commence milking with the other hand, when I should be all ready for the struggle, which would not be long or hard.

Roxbury, Vt., Dec. 30, 1868. W. I. SIMONDS.

COST OF RAISING PORK.

I have this day killed my pigs, and think they have done very well, considering all things. They were eight months and ten days old. I have had them 220 days. The two weighed when I got them 34 pounds. They weighed when dressed 619½. I have kept an account with them. It may be interesting to others:—

May 20, 1868.	To paid for pigs	$ 8.00
Aug.–Oct	to 450 lbs meal	12.12
Nov.–Dec.	" 15 bush. corn, 8s.	19.96
Dec. 26,	" butchering	1.50
		$41.58

They had plenty of milk all of the time, and while I was husking I fed them nothing but soft corn for one month. The meal charged was some that I bought, and the corn I raised and had ground. The meal I scalded after it began to be cold weather. The pigs were a mixture of the common breed and Chester County. If you think the above, which is my first attempt at writing for a paper, worthy of note, you may put in shape for your Extracts and Replies. SUBSCRIBER.

Rockingham, Vt., Dec. 26, 1868.

FEEDING COWS FOR MILK.

I notice there is a discussion going on among the milk producers in your vicinity. Being a milk producer myself for the market here in Concord, I would like to inquire how the milkmen feed their cows during the winter to make them give the most milk on the least expense. At present, I feed on meal from cob and corn ground together. I give each new milch cow three quarts meal and three quarts shorts per day, mixed up with hot water, about a pailful of water to each mess. How can I improve on this feed? J. V. A.

West Concord, N. H., Dec. 21, 1868.

REMEDY FOR BORERS.

After twenty years' experience, in which I have found it to work not only to my own entire satisfaction, but to that of others who have tried it, I can confidently recommend stopping up the holes of borers in trees with hard soap, as an infallible cure for this pest to our orchards. Though simple, try it, brother farmers. Permit me to say that I like your paper very much. HARVEY B. PIERCE.

North D[illegible]uth, Mass., Nov. 30, 1868.

AGRICULTURAL ITEMS.

—The first shipment of wheat from Chicago was 78 bushels in 1838. This year the amount shipped is 50,000,000.

—The *California Farmer* of Nov. 19, says there are fifty thousand tons of wheat in the warehouses at San Francisco, or about one quarter of the year's surplus.

—The old Massachusetts Society for Promoting Agriculture voted at a late meeting to offer two prizes, of $300 and $200, for best experiments in the State in the artificial propagation of fish.

—Every part feeds a part. Hence put the droppings of grain-fed animals on corn and wheat fields, of hay-fed animals on grass lots, and the droppings of forests on orchards.

—A rock maple was recently cut near West Concord, N. H., whose circumference when chopped, was fourteen feet nine inches. It was at least one hundred feet high, and had been tapped for sugaring one hundred and six years.

—The Early Rose sprang from seeds in a potato ball. From the seeds of that one ball seven kinds of potatoes have been raised; and, what is stranger than all, each of the seven varieties is excellent in its way.

—The *Prairie Farmer* says that at least one hundred cattle have died in Story County, Iowa, of a disease supposed to have been caused by eating smut which was very abundant on the corn in the fields where they were fed.

—The Worcester County West (Barre,) Mass., Agricultural Society has re-elected its President and Secretary, J. W. Jenkins and Charles Brimblecom, and has chosen John T. Ellsworth, a member of the State Board of Agriculture for three years.

—A correspondent of the *Mirror and Farmer* says that Mr. Aaron S. Bucknam, of New Ipswich, N. H., obtained from *seventy-one quarts and one pint of milk*, the present autumn, *eleven pounds four ounces* of butter, being a fraction more than one pound to six and one-half quarts. The milk was obtained from four cows, running in a pasture fed close, with two hours' baiting daily in "fall feed." No other extra feed, except that one of the number, a young cow, was fed one pint of meal daily.

—One of the features of the Iowa State Fair was the sale of choice farm stock. Ten bull calves, Short-Horned, were sold for $200 each, one for $300, and another for $375. Cotswold ewes sold at $44, and two bucks at $65 per head. Berkshire sow pigs went for $25, and a boar pig nine months old went for $50.

—An old stable builder in Baltimore says he has come to the conclusion, after 25 years' trial, that a two-inch white pine plank floor, laid level, with a square iron 2x2½ grating, so placed as to receive the urine, is the best arrangement for a horse. Clay, stones, concrete, &c., he rejects. The width of a horse-stall should be four feet nine inches.

—According to experiments made at the Michigan Agricultural College, the amount of milk consumed by pigs to produce one pound of increase was, for the first week, 7.20 lbs.; for the second week, 7.70 lbs.; for the third week, 12.52 lbs.; and for the fourth week, 10.56 lbs. Hence the younger the animal the more rapidly it gains.

—Speaking about the bed quilts of many colors and innumerable pieces which take prizes at agricultural fairs, "Aunt Lucy" says in the *Rural New Yorker*, "I have lived forty-six years and brought up six children, and have never yet found time to buy calico and cut it up into little pieces, half an inch square, for the purpose of sewing them together again, just to see how many I could make of it."

—In eastern Virginia are extensive forests of large trees where old tobacco hills and corn furrows, made long ago, can be seen; and in eastern Massachusetts trees fit for saw-logs are casting a dense shade over rows of old corn hills, which retain nearly their original form and size. Need such a country anticipate the evils which are experienced in some parts of the world from the removal of forests?

—The increase of the rabbits introduced into Australia from England has become so enormous that in some parts of the country they threaten to starve the sheep out of their runs. One farmer estimates that it will cost him £10,000 in wages to trappers and killers before he expels them from his grounds. They are greedy for some of the most beautiful cultivated flowers, and are becoming the terror of horticulturists.

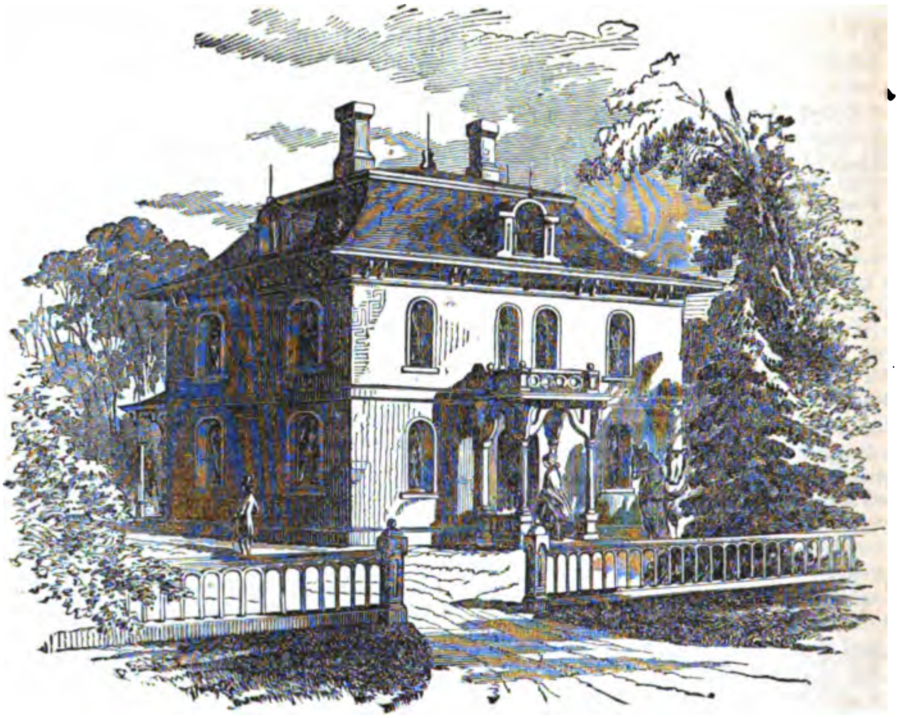
—An exchange, remarking on the chafing of the breasts of horses, says—"The common practice of using pads or sheepskin under the collar is objectionable, especially in warm weather, because it accumulates heat and makes the breast tender. A better way is to take a piece of thick and smooth leather, cut it out just the size of the collar, or a little wider, and let it lie flat on the neck and shoulders of the horse. This will lie smooth on the neck, while the collar itself moves about, and so it will prevent chafing. In addition to this, let the breast of working-horses be washed off every night with clean water.

—According to a German *savant*, the decay with which the trees in the promenades and gardens of Berlin, as well as of other large cities, have recently been affected, arises chiefly from the tremulous movement communicated to the soil by rapid locomotion; the perfect adherence between the roots and the earth, so necessary for the absorption of nourishing juices is, he declares, destroyed by this continual agitation.

—The following are the officers of the Merrimac, N. H., Agricultural Society for 1869. President, Hon. Aaron Whittemore, Pembroke; Vice President, John McNeill, Concord; Secretary, J. E. Pecker, Concord; Treasurer, Abel Hutchins, Concord; Directors, John C. Gage, Fisherville; Simeon Abbott, West Concord; John C. Pearson, Webster; William Parker, Suncook; Daniel E. Hill, Northfield; Heman Sanborn, East Concord; Charles H. Carpenter, Chichester. This is the oldest agricultural association in the State, it having been founded in 1824.

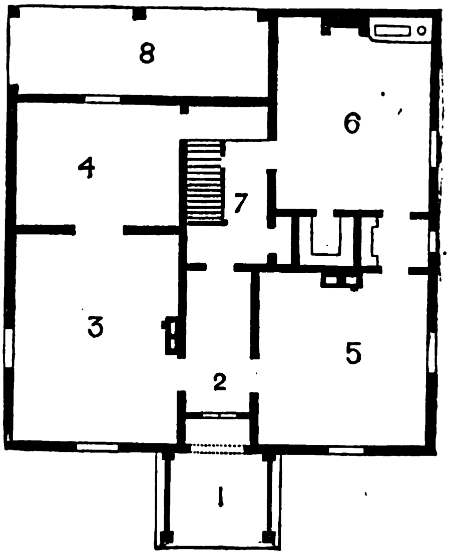
—The annual meeting of the Contoocook, N. H., Agricultural and Mechanical Society, was held recently. The principal newly elected officers are: President, Cornelius Coolidge, Hillsborough; Vice Presidents, J. B. Moulton, Weare; A. S. Woods, Hancock; Secretary, J. F. Chase, Deering; Assistant Secretary, Daniel Johnson, Weare: Treasurer, J. C. Cambell, Hillsborough. The Fair for 1869 was located at Hillsborough Bridge. The financial report showed a balance of $400 in the treasury after all the bills had been paid.

BUTTER FROM MILK OF JERSEY COWS.—The statement was recently made by one of our correspondents that the rich milk of the Alderney or Jersey cows was especially valuable on account of its superior keeping qualities. One milkman asserted that milk from his Jersey cows would keep sweet from ten to twelve hours longer than that from any other cows in his herd. If such is a characteristic of the milk from Jersey cows, we should naturally suppose that butter made from this milk would be likely to possess something of the same quality. But we have never tested it thoroughly ourselves. We notice that one of our contemporaries says that such is not the case; that "butter made from the milk of Jersey cows is altogether more difficult to keep than most other kinds of butter." What say the manufacturers of the beautiful "gilt-edged" Jersey cow butter to this assertion?



A VILLAGE RESIDENCE.

Our illustration this month represents a somewhat more showy and expensive house than most of the series which was designed by Mr. Geo. E. Harney, and which have been occasionally published in the FARMER during the few years past. His object in this plan is to furnish accommodations particularly adapted to the wants of the village or suburban resident. The plan is nearly square, measuring 30 by 36 feet. The front door is recessed three feet, and opens into a vestibule, No. 2, six feet wide. On the left is the parlor, No. 3, 14 feet by 20, connecting by means of glazed folding doors with the library, No. 4, 10 by 14 feet. On the right of the vestibule is the dining-room, No. 5, 14 feet by 16, and back of the dining-room is the kitchen, No. 6, 13 feet by 16. Between these two rooms is a passage containing cupboards for china. The kitchen is furnished with a large store-closet, and a sink, and pump. In order to economise room, we have provided but one staircase and have placed it in a convenient but retired position in the rear hall, No. 7, separated from the vestibule by a glazed door. For sleeping accommodation we have provided



four chambers, with closets, and a bathing-room on the second floor, and three chambers, and a clothing-room in the attics, making in all seven chambers; a large number for a house of this size.

The first story is ten feet high, and the second nine and a half. Built of wood, with slate roof, Mr. Harney estimated that this house would cost from $3800 to 4000, with materials and labor at the usual prices previous to the late war.

SUBSTITUTES FOR MILK IN RAISING CALVES.

A correspondent in Nebraska writes to inquire what will be the proper food for young calves. He states that he can obtain several from excellent milkers, but has no milk to feed them. It is difficult to raise calves in winter and have them do well even when they have the advantage of the natural food drawn directly from the cow. It is more difficult to have them thrive if brought up by hand and fed on milk; and the difficulty will be greater still if no milk can be obtained.

All attempts to make an artificial milk that will be healthful have resulted in failures. Leibeg made an artificial milk that contained the identical ingredients of common milk, and they were united in the same proportion. It was thought that great good would result from the discovery; but all the babies that were fed on it for a considerable time, died. Fresh milk seems to be absolutely essential to the calf during the first few days of its existence. After this, the supply of milk may be diminished, or the cream may be separated from it before it is used. If we do this, however, we must keep up this loss in the oleaginous principle by means of some such substance as flax-seed or oil cake.

Probably the best food that could be obtained for young calves in the winter time, if no milk can be obtained, is a mixture of flax seed jelly and meal gruel. Oat-meal is unquestionably to be preferred to other kinds, as it contains a large amount of gluten, which very nearly resembles casein in its chemical composition. Next to oat-meal, wheat screenings, ground but not bolted, would furnish the largest amount of nitrogenized food for the least expense. Too much rye meal would probably bring on scurvy. Indian meal, made into a gruel, should be sparingly used at first, but as the calf gains in strength, and its digestive organs are better developed, it should become the principal article of food.

The calf shoud be early taught to eat hay, by tying up before him a bundle of nicely cured, tender grass—rowen is best for the purpose. Great care should be given to keeping the calves well supplied with water that is not too cold. Their beds must be warm and clean. Our German women contrive to raise many calves by hand, and their skill is principally to be attributed to their uniform attention to them, and their care in thoroughly cooking their food.—*Prairie Farmer.*

GREAT EATERS.

The fact that animals or a race of animals are small eaters, or, in common language, easily kept, is generally, we believe, regarded by farmers as a high recommendation. Prof. J. Harris favors the great eaters, in an article in the *American Agriculturist,* in which he says:

It seems clear to my mind that there is an immense advantage in getting animals to eat, digest, and assimilate *a large amount* of food, for the simple reason that it takes a very large proportion of the food to sustain the vital functions, and all the growth of the animal is derived from the food eaten in excess of this amount. I believe this is now the most important point to which breeders can direct their attention. The amount of offal in well-bred animals has been reduced by skilful breeding to a minimum. Now let them aim to increase the digestive powers. Said an experienced dairyman, "I never knew a cow that was a great milker that was not a great eater." This is my idea exactly. And what we want is a breed that will eat 25 or 50 per cent. more in proportion to live weight than any animals we now have. They would, *in proportion to the food consumed,* grow twice as fast as they now do. I have very little doubt as to the truth of this proposition; and if it *is* true, the sooner it is acknowledged and acted on by our breeders the better.

Overcrowding the Cities.—Under this title an excellent city paper says:—"One of the most painful phenomena of modern life is the wide-spread tendency, on the part of young men, to flock to the great cities. With the best opportunities for success, quiet but steady in the pursuits of rural life, they are allured by dreams of quick fortunes and ease from toil in the great centres of business, and abandon with alacrity the certain for the visionary. The simple truth is—and every young man who contemplates leaving his country home for town life ought to heed it—the cities are, and have been for years, overcrowded. So far from having room for more, they could well spare a large surplus. The supply for situations such as most country boys desire—clerkships of the various kinds—is immensely in excess of the demand. For every position offered, hundreds of hungry applicants, skilled in the duties required, lie in wait, and are only too glad to get employment at any price."

The above warning may be applied to young women with a double emphasis.

THE BEST BREEDS OF COWS.

THERE are now several distinct races of cattle in the country possessing very different characteristics and properties, and it becomes an interesting and important question to the farmer, what breed shall I keep and raise? To answer this question intelligently, several circumstances must be taken into consideration. In the first place, for what purpose does the farmer raise his stock? Is it for the shambles, or for general dairy purposes, or to furnish milk for the market?

If it is for beef, the animal that will make the most beef at the least expense of keeping, and in the shortest time, will be sought. If it is for making butter and cheese, the breed that will yield the largest amount of these products, at the least cost, and which possess the requisite hardiness and the least liability to disease, will best meet this object. If it is to furnish milk for the market, then quantity of milk, rather than the quality is sought, and those cows that yield the largest quantity, and continue the flow the longest will be preferred.

But these are not the only circumstances to be taken into the account. The soil, the climate, the facilities for reaching the market, and the probability that the progeny will possess the qualities of the parents, must also be considered.

We have, first, the native stock; by which we mean that which descended from the importations of the early settlers, and which constituted nearly the whole stock in the country previous to the close of the last war with England in 1815. This stock is of moderate size, hardy and well acclimated, and among it may be found many superior animals both for beef and the dairy; but in general they are deficient in beauty of form, and in those points that are desired by the butcher, and their progeny is of very uncertain character.

Next we have the Durham or Short-horns, a large, thrifty breed of cattle, that make fine oxen and yield a large amount of beef. They are less hardy than the native race in the colder parts of the country, and require high keeping. Where climate and soil are suited to them, they probably meet the wants of both the dairy and the beef raiser better than any other breed.

The Devons are a beautiful and hardy race, smaller than the Durhams, giving less milk, but of a richer quality, and they arrive at maturity earlier. They are easily kept in good condition, and generally, in the colder parts of the country, are fitted for the butcher a year earlier than the Durhams. They are active and docile, and the oxen make fine workers.

The Ayrshires are slightly larger than the Devons, less symmetrical in form, but hardy and active, and yield a larger quantity of milk, at the same cost of keeping, than any other breed which we have. Individuals may be found among the native stock that will yield as large a quantity of milk as any of the Ayrshires, but the quality of yielding a large quantity of milk has become so well established in the Ayrshire breed, that we may breed from them with much greater certainty of retaining this quality than from the best of the native stock. They fatten easily when not giving milk, and make good beef.

The Jerseys are a small race of animals, with but little beauty of form, except when young, and possessing at no period of life the the points desired by the butcher. They are of but little value either for veal or beef, and they consume more food than any other breed among us, in proportion to their weight. But their milk is richer than that of any of the larger breeds. Their food seems to be expended largely in elaborating butter, which often constitutes from twenty to twenty-five per cent. of their milk. They, commence to breed very young, and when well kept continue to give a good quantity of milk through the year. In quantity their milk is less than the Ayrshires and Durhams.

The Dutch breed, recently introduced is a large race, well fitted for beef, and yield a large quantity of milk, but requiring rich pastures and high feed.

Some fancy breeds, as the Kerry and the Britanny, fitted rather for the park and the lawn than for the farm, have lately been introduced.

We said that soil and climate must be taken into consideration. The larger breeds are found most profitable where they can be sustained upon rich pasturage during a large part of the year, or upon intervales and river bottoms, which yield large quantities of good hay and roots for the long winters. Upon rocky hills and in a cold climate, where the grass starts late, and the cattle must be taken early from the pasture and then fed upon hay of an inferior quality, smaller breeds will thrive better and yield better returns for the cost of keeping.

But what is the object of the farmer in keeping stock? If he is near the market, where his milk can be daily served to his customers, and where the butcher will pay the highest price for his calves, he will raise but little stock, and make only butter for his own family, if he even do that. He will seek for those cows that will yield the most milk, without reference to beef, or the quality of the milk. He is satisfied with any cow that will fill his pail at a reasonable cost of keeping, without regard to breed or grade. He will go among the beef raisers or dairymen, and purchase those that have the points of large milkers, believing it cheaper than to raise them himself. This class of men will generally, in New England, keep the Ayrshire cows or their grades, and we think they will find that the more Ayrshire blood they get the better their wants will be met. In the lower part of the valley of the Connecticut, in the neighborhood of New York, Philadelphia or Cincinnati, where there is an abundance of rich pasturage, they will prefer the Short-horns or their grades, because while they give an equal quantity of milk, their calves are worth more for veal, and the cows themselves, when they cease to give milk, are worth more for beef.

If the object is butter making, the same considerations of soil and climate will go far to decide what breed shall be kept. Where the soil and climate are suited to them, the Short-horns or their grades will be chosen. In the colder States the Devons or their grades with the Ayrshires will be preferred. Some prefer to keep a few Alderneys, believing that their cream added to that of the rest of the herd, makes the butter of the whole better. Those who keep one or two cows for the use of the family, will be glad to get Alderneys, on account of the superior quality of both the milk and butter,—beef and veal being of no consideration with such, in comparison to the quality of the milk and butter.

The stock raisers, too, must be governed by considerations of soil and climate. The Vermont stock raisers generally prefer the Devons on account of their hardiness and early maturity, believing that they yield a better return for the cost of keeping than the larger breeds. In Western New York, Pennsylvania, Ohio, Illinois and Kentucky, the Short-horns are justly preferred. In these States we find the most magnificent specimens of this race. Their pastures afford the very conditions they need. Hence the breeders of these States attach but little value to the smaller breeds.

The question, then, which is the best breed of cows, like the question, which is the best grape, must be answered by reference to local considerations. There is no one breed of cattle, and no one grape that is best throughout our widely extended country, with its great diversity of soil and climate. That breed or plant is best for any locality that is best suited to the soil or climate, or that can best resist the obstacles to its thrift and population. We will close with a single remark—never keep a poor cow of any breed, and especially never attempt to raise her progeny.

Youths' Department.

A SPIDER'S MATERNAL AFFECTION.

A correspondent of *Hardwicke's Science Gossip* says:—

"In the course of last summer, when out for a naturalist's 'constitutional,' a circumstance came under my notice, which, in justice to the 'poison-fang fraternity,' I have thought ought to be told. In an old hedge, dry as dust, I found a great many varieties of spiders. One of these, a dark colored, grizzly-looking jade, I captured, with a view to our becoming better acquainted. Under and in immediate contact with the abdomen, she carried a cocoon, containing (I presume) eggs or baby-spiders.

In form and size it resembled a small grain and you shall never be put to shame. Now of hempseed, and was kept in its place by the first pair of legs clasping it. When the cocoon was severed from her, the mother would not leave the palm of my hand on which I held them, but stood at a short distance apparently watching intently her precious load, towards which she several times made a rush, and with a rapidity that eluded my sight, picked it up and attempted to make off with it. I several times deprived this dutiful mother of her charge, and as often she proved that she valued her own life less than its loss. Indeed, the 'first law of nature,' self-preservation, seemed in her case to have been suspended."

[Copied by permission from *Appleton's Juvenile Annual.*]

THE DOG AND THE WATER-LILY.

The noon was shady, and soft airs
  Swept Ouse's silent tide,
When, 'scaped from literary cares,
  I wandered by its side.

My spaniel, prettiest of the race,
  And high in pedigree
(Two nymphs adorned with every grace
  That spaniel found for me),

Now, wantoned, lost in flags and reeds,
  Now starting into sight,
Pursued the swallow o'er the meads,
  With scarce a slower flight.

It was the time when Ouse displayed
  Her lilies newly blown;
Their beauties I intent surveyed,
  And one I wished my own.

With cane extended far, I sought
  To steer it close to land:
But still the prize, though nearly caught,
  Escaped my eager hand.

Beau marked my unsuccessful pains
  With fixed considerate face,
And puzzling set his puppy brains
  To comprehend the case.

But, with a chirrup clear and strong
  Dispersing all his dream,
I thence withdrew, and followed long
  The windings of the stream.

My ramble ended, I returned;
  Beau, trotting far before,
The floating wreath again discerned
  And plunging left the shore.

I saw him, with that lily cropped,
  Impatient swim to meet
My quick approach, and soon he dropped
  The treasure at my feet.

Charmed with the sight, "The world," I cried,
  "Shall hear of this thy deed:
My song shall mortify the pride
  Of man's superior breed:

"But chief myself I will enjoin,
  Awake at duty's call,
To show a love as prompt as thine
  To him who gives me all."

COWPER.

A SHORT STORY ABOUT HONESTY.

One evening a poor man and his son, a little boy, sat by the wayside, near the gate of an old town in Germany. The father took a loaf of bread which he had bought in town and broke it, and gave half to his son.

"Not so, father," said the boy; "I shall not eat until after you. You have been working all day, for small wages, to support me, and you must be very hungry. I shall wait until you are done."

"You speak kindly, my son," replied the father. "Your love to me does me more good than my food; and those eyes of yours remind me of your dear mother, who has left us, and told you to love me as she used to do; and, indeed, my boy, you have been a great strength and support to me. But now I have eaten the first morsel to please you, it is your turn now to eat."

"Thank you, father; but break this piece in two, and take a little more; you see the loaf is not large, and you require much more than I do."

"I shall divide the loaf for you, my boy, but eat it I shall not. I have abundance; and let us thank God for his goodness, in giving us what is better still, cheerful and contented hearts. He who gave us the living bread to nourish our immortal souls, how shall he not give us all other food, which is necessary to support our mortal bodies?"

The father and son thanked God. and they began to cut the loaf in pieces, to begin their frugal meal. But as they cut one portion of the loaf, there fell out several large pieces of gold, of great value. The little boy gave a shout of joy, and was springing forward to grasp the unexpected treasure, when he was pulled back by his father.

"My son, my son!" he cried, "do not touch that money; it is not ours."

"But whose is it, father, if it is not ours?"

"I know not as to whom it belongs, but probably it was put there by the baker through some mistake. We must inquire. Run—"

"But, father," interrupted the boy, "you are poor and needy, and you have bought the loaf, and then the baker may tell a lie, and—"

"I will not listen to you, my boy; I bought the loaf, but I did not buy the gold in it. If the baker sent it to me in ignorance, I shall not be so dishonest as to take advantage of him; remember Him who told us to do to others as we would have others to do to us. The baker may possibly cheat us; I am poor, but that is no sin. If we share the poverty of Jesus, God's own Son, oh! let us share, also, his goodness and his trust in God. We may never be rich, but we may always be honest. We may die in starvation, but God's will be done, should we die in doing it. Yes, my boy, trust in God, and walk in his ways, run to the baker, and bring him here, and I will watch the gold until he comes."

So the boy ran after the baker.

"Brother workman," said the old man, "you have made some mistake, and almost lost your money," and he showed the baker the gold, and told how it had been found. "Is it thine?" asked the father. "If it is, take it away."

"My father, baker, is very poor, and—"

"Silence, my child; put me not to shame by thy complaints. I am glad we have saved the man from losing his money."

The baker had been gazing alternately at the honest father and the eager boy, and the gold which lay glittering on the green turf. "Thou art indeed an honest fellow," said the baker; "and my neighbor, David, the flax-dresser, spoke the truth when he said thou wert the most honest man in the town. Now, I shall tell thee about the gold. A stranger came to my shop three days ago, and gave me that loaf, and told me to sell it cheaply, or to give it to the most honest poor man whom I knew in the city. I told David to send thee to me as a customer this morning; as thou wouldst not take the loaf for nothing, I sold it to thee, as thou knowest, for the last penny in thy purse; and the loaf, with all its treasure—and certainly, it is not small!—is thine, and God grant thee a blessing with it!"

The poor man bent his head to the ground, while the tears fell from his eyes. His boy ran and put his arms around his neck and said:

"I shall always, like you, my father, trust God, and do what is right; for I am sure it will never put us to shame."—*Edinburgh Christian Magazine.*

A WORD TO BOYS.

Come, boys, and listen a few moments to your uncle. You have now arrived at an age when you must begin to think about doing something for yourselves. The first piece of advice I have for you is, to do everything well which you undertake. There is but little danger of your being too particular in this respect. A boy who is careful to draw a straight line on his slate, will be very likely to make a straight line through life. There is no position in life in which you will not be called upon to act as exact as possible. Step into the jeweller's shop, and see how careful the workman must be in finishing up the article he holds in his hands. Visit the ship-yard, and the man with the broad-ax must learn to hew on a line, or be dismissed. You think of being a clerk. Well, remember that a mistake there is a little less than a crime. I never saw a man who was very particular about his affairs that was not successful. How exact is a military officer in the command of a body of men. A clumsy sailor will never rise to the command of a ship.

But there is one great danger which besets many young men at the present day. It is the disposition to avoid all solid improvement, and take up with subjects that require no thought, and which serve as mere warfare with godliness, our portion will be that of the ungodly. As the tree falleth so shall it lie. We shall reap what we have sown.

"Let my example warn you of the fatal error into which you have fallen," said the gay Sir Francis Delaval, near the end of his life. "Pursue what is useful! pursue what is useful!" Reader, if you would not want to make your life a curse, present and eternal, "pursue what is useful.

Gentle Utterance.—When a boy of fourteen, following a plough, drawn by oxen, our father said the first day of work, "Let us see who can talk the lowest to Buck and Bright; it isn't the sound that makes the team go, but the understanding that springs up between driver and team." The thing was new to our ears. We had always heard the "woa haw, Buck," or the "woa haw, Bright," given in tones of bawling only, and had grown to the belief that bawling was the only way of driving. But a little experience on the low keys showed that an ox, dumb and slow as some call him, had not only a show of intellect, but also of the proprieties of his position. Buck and Bright answered as well to a few words quietly spoken as to the many vociferated.

Ladies' Department.

LITTLE BROWN HANDS.

They drive home the cows from the pasture,
  Up through the long shady lane,
Where the quail whistles loud in the wheat fields
  That are yellow with ripening grain.
They find, in the thick waving grasses,
  Where the scarlet-lipped strawberry grows;
They gather the earliest snow-drops,
  And the first crimson buds of the rose.

They toss the new hay in the meadow;
  They gather the elder-bloom white;
They find where the dusky grapes purple
  In the soft-tinted October light;
They know where the apples hang ripest,
  And are sweeter than Italy's wines;
They know where the fruit hangs the thickest
  On the long, thorny blackberry vines.

They gather the delicate sea-weeds,
  And build tiny castles of sand;
They pick up the beautiful sea-shells,
  Fairy barks that have drifted to land;
They wave from the tall rocking tree-tops,
  Where the oriole's hammock-nest swings,
And at night-time are folded in slumber
  By a song that a fond mother sings.

Those who toil bravely are strongest;
  The humble and poor become great;
And from these brown-handed children
  Shall grow mighty rulers of State.
The pen of the author and statesman,—
  The noble and wise of the land,—
The sword and the chisel and pallette
  Shall be held in the little brown hand.

HOUSEHOLD ECONOMY.

CONTRIBUTED FOR THE NEW ENGLAND FARMER.

Pickling Apples.

Have you a good receipt for pickling apples? C. M.

West Milton, Vt., Nov. 19, 1868.

REMARKS.—Will some of the excellent cooks among the readers of the FARMER reply to the above? On reference to the books we find the following, which may be of some use, till better directions are given:—

Pickle for Vegetables.—Six quarts of the very best vinegar, one pound of salt, a quarter of a pound of ginger, one ounce of mace, half a pound of chalots, one table spoonful cayenne pepper, two ounces of white peppercorns, and two ounces of mustard seed. Boil all these well together, and when cold put into a jar. You may add what green vegetables or fruit you like, provided they are fresh.—*Country Gentleman.*

There, that comes the nearest to "pickling apples" of anything we find. But as "sauce for goose," &c., here is one for

Pickling Peaches.—Wipe them dry and stick into each one three or four cloves, and place in a crock; prepare a pickle as follows: To one peck of peaches allow three pounds of sugar and nearly one quart of vinegar. Scald and pour over the fruit three successive mornings.

How to Cook Sweet Apples and Fresh Meat.

Instead of baking my apples, I put them into a porcelain kettle, usually about three quarts at a time. Then add a pint of water, cover them with a cloth and put it on to the stove and steam them till tender. Then remove the cloth, and add half a teacup of molasses and let them cook until there is but little syrup and you have a dish far superior to baked apples.

Fresh meats, pork excepted, should never be roasted or baked, but steamed. Put a quantity of water into the pot and then put the meat into the steamer, but not to come in contact with the water, and steam until tender. The juices are thus all retained in the meat, and of course it is much more nourishing and palatable. Try it, and see how tender a tough piece of meat can be made. G.

Bethel, Me., 1868.

CHILDREN AND THEIR SAYINGS.

A friend of mine has two bright little boys —Freddy, between three and four years old, and Willie about five. A chronicle of their doings and sayings would fill a volume, but two specimens must suffice.

Both were very fond of milk, and a mug of it always completed their supper. But while in the country last summer, it so chanced that they one day saw the girl milking.

"There, Willie," said Freddy, "you see that, do you? I don't want any more milk after the cow's had it," and he withdrew very much disgusted.

That evening, when their mugs of milk were placed on the table, both stood untouched. A reason of this phenomenon being asked, Freddy simply declared that he did not want any milk after the cow had had it, but further refused to explain. Willie, however, told of the discovery of the morning.

The mother then explained to them that the milk did not come to them second-hand—that the cow ate grass, which was changed into milk by a wonderful chemical process, akin to that which produced everything in Nature. In the light of this explanation Willie was satisfied, but Freddy still turned up his nose at milk, sticking to the original proposition.

After supper, Willie, who on these important occasions always acted as expounder, took his brother aside into a corner. "It's all right, Freddy," he said, "and you can just go on drinking your milk again. The cow eats grass, and that's what makes it. Now if the cow didn't eat the grass, you'd have to, you see. That's what the cow's for."

Freddy resumed his evening draughts. To his mind the only alternative was eating grass, and from that he shrank.

How observant children are, and how their ears prick up at an insinuation that anything is going on which they are not particularly desired to see or hear!

A little fellow—a "minister's son," by the way—sat on the floor one afternoon, playing with his blocks, when some ladies called on his mamma. Very soon the conversation turned (I am sorry to say) on a bit of scandal that was in the village. Remembering suddenly that the child was in the room, and not knowing exactly how much he might understand of what was being said, an abrupt pause was made in the conversation.

There sat the little fellow, busy with his blocks, and in reality not heeding a word of what was being said. But no sooner did the pause come than he turned round, and rolling on the floor, laughing as though his little sides would burst, shouted: "Go right on! that's just such as I like to hear every day!"

HOW TO BOIL POTATOES.

Was it not Lord Sefton or some other equally celebrated epicure who, being on the committee of a club deciding on the choice of a new *chef*, after the most abstruse subtleties of art had been exhausted, put this simple and staggering question, "Can you cook a potato?" Whether the chef fainted or challenged Lord S., tradition—being, indeed, often rather hard of hearing—has not condescended to relate.

But Lord Sefton was right; no doubt in the mere boiling of a potato the profoundest chemical laws are evolved, and a Faraday might have lectured upon the process as embracing all the mysteries of the kitchen. It involves the discovery of the powers of steam and the laws of caloric, though all these are known by implication to every good and thoughtful cook.

Choose your potatoes carefully; the yellow are more worthy than the red, and the red are more worthy than the white. Potatoes are best of a moderate size, without specks, heavy, and clear in the rind. They should not be washed until they are pared and prepared for cooking. Boil, Dr. Kitchener (what a fortunate name for a writer on gastronomy!) says, potatoes of the same size together; otherwise the smaller ones will be boiled to pieces before their larger brethren are softened at the core. Above all things, do not fill your sauce-pan more than half full; and remember that it is especially important not to put more water than will cover the potatoes about an inch, so that, allowing for waste in boiling, they may still just be covered.

Set them on a moderate fire till the lid of the sauce-pan begins to trot and bump; then lift the pot off the fire to the hob, there to simmer as slowly as possible till the potatoes will admit the prongs of a steel fork. Moderate-sized potatoes take about twenty minutes' boiling. The cracking of the coats is no proof of their being done, as some potatoes, when boiled too fast, will open before they are half done; when the fork test satisfies you pour off the water, uncover the sauce-pan, and set it by the fire for fifteen or twenty minutes, so as to let the moisture pass off in steam. The potatoes will then come to table dry and mealy.

DRAWING-ROOM FURNITURE.

Harper's Bazar gives the following description of the prevailing styles of Drawing-Room Furniture:—

Furniture for drawing-rooms is copied from the Louis Seize period. This differs from the Pompadour style in heavy, broad, straight, sofas, and chairs with low square backs, stuffed and tufted throughout, the wood of the frame visible only at the feet. Gilded wood is greatly used. The most showy suits are of gilt or whitewood covered with satin of a solid color, such as pale blue, light green, or fawn color. The cherry-colored satin is found to be most generally becoming. Pear-wood stained to represent ebony is combined with gilt, throwing it into bold relief. Tasteful designers deplore the elaborate use of gilt, and only commend it when associated with other woods. It has always a tawdry look, and is soon tarnished. The fashion will not be a permanent one.

Satin and the terry reps thickly tufted are used for upholstery. Brocatel is entirely out of fashion. The beautiful tapestries are in better keeping with the Louis Quinze styles, but have never been properly appreciated in this country.

An elegant drawing-room lately furnished has a moquette carpet, pearl color, strewn with garlands of flowers. The furniture is upholstered with light blue satin, tufted and edged with a tri-colored cord, cherry, blue and drab. Curtains of the same satin with a tapestry border, in which these three colors enter. Lace shades beneath. The long marquise sofa consists of a French *confidante*, or sofa for two, with marquise arm-chairs attached to the ends. Variously shaped satin chairs are about the room, and upright reception chairs of all gilt in bamboo pattern.

Ebony cabinets are low and flat-topped, and are inlaid with marquetry of the Algerian Tuya wood, the purple amaranth and gilt. The cover is of the colored Spanish marble brought from the Pyrenees. A cabinet of fancy woods, an inlaid table, or a writing-desk in a bourdoir afford a pretty relief to rooms furnished with plain woods.

Faience, a clay material with raised figures, is being introduced for medallions, ornaments in furniture, vases, nnd jardinieres. The designs are antique, the colors deep and strong, somewhat resembling majolica. A valuable piece shown us is a large vase from the French Exposition. It is tan-colored, with raised flowers in natural hues. The price is $200.

Parlor suits of solid black walnut, upholstered with wool reps, are the best choice for people of moderate means. These are made up in as good style as the most expensive material, but in less elaborate design. Plush is being used again by economical families who have sitting-room and parlor in one. It wears well, and is not expensive. A handsome suit of drab reps has a wide stripe of scarlet plush in the centre of each piece. The narrow frames of mantle-mirrors are covered with scarlet plush edged with gilt and ebony.

LOSS OF CHILDREN.

Those who have never passed through this fiery furnace, which tries the inmost heart, cannot sympathise with bereaved parents whose hearts bleed over their children dead. To describe the anguish which rends their hearts as they gaze upon the loved forms on whom their fondest hopes and aspirations had rested so firmly, now cold and lifeless in their coffin home, would require a pen dipped in the very essence of the sublimest sorrow itself. None but the parents can feel it, and none but those who have mourned like them, can sympathize with those who mourn the death of their children. The loss no power on earth can bring them back, and place them again beneath their parents' loving gaze and fond care. From earth they have taken their final departure, never, never to return. The little chairs then occupied, the little plate and knife and fork they used, will be to them of service no more—but merely lonely momentoes of their existence. The patter of their little feet upon the floor, and the music of their sweet, sweet voices, will greet the parents ear never again on earth. All will be a recurrence of all that is dreary and dismal. But hope, plumed by religion, points to a happy meeting in another and better world.

Spices and Aromatic Herbs.—Speaking of the spices employed as seasoning for pies, gelatine. &c., an author writes:—

The best way to have these spices good is to prepare them oneself. The following are the proportions in ordinary cookery: Place in a paper bag quarter of an ounce of thyme, quarter ounce of bay leaf, eighth ounce of marjoram, eighth ounce rosemary; put the bag into the hot screen till the herbs are dry; mix them in a mortar with a half ounce of nutmegs, half ounce of cloves, quarter ounce of pepper; pound the whole and press through a hair seive. Keep these spices in a dry, well-corked bottle. These spices are used either alone or with salt added; the proportion for mixing with salt is one ounce of the mixture to four ounces of fine salt. One ounce of the spiced salt is sufficient to season three pounds of gelatine forcemeat.

Cleaning Woolen Clothing.—A simple apparatus, much used in Paris, for removing grease and dirt from woolen clothes, or scouring them, consists in a cubical wooden box, rotating on an axis passed diagonally through the opposite corners. The box is perfectly tight, and has an aperture at one side, through which the clothes are introduced, and having a valve door, which can be closed air-tight. The clothing is placed in the box, with a quantity of benzine, petroleum, ether or other substances, and after closing the mouth the box is rotated rapidly, about twenty or thirty times in a minute. After a sufficient time, the clothing is removed, the operator squeezing out the liquid as the pieces are brought out. After the remaining benzine or other substance has evaporated the articles are well brushed. A box two and a half feet deep will take in twelve overcoats, or twenty-five pairs of pantaloons. The same apparatus may be used as a washing machine. Another method, though a dangerous one, consists in passing the vapor of distilled benzine and other substances against the cloth, brushing this thoroughly during the operation.

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MONTHLY.

SIMON BROWN, S. FLETCHER, } EDITORS.

MARCH.

MARCH, the fourth month of winter in our climate, is now upon us. The days are growing longer, and we begin to see increasing indications of the power of the sun. The snow is wasting away and the mud and slosh are growing deeper, and the wheels cut deeper and deeper into the ruts every day, and the warmth from above will soon reach the warmth that has been treasured in the earth, and the frozen crust that has covered the earth like a blanket and protected it from the cold wind, and enabled it to retain its accumulated heat, will soon disappear. We shall soon see proof that the heat is increasing during the day faster than it is given off during the night. Indeed careful observation will show us even now that the quickening power of the sun's rays is beginning to be felt. The buds of the maples are swelling, and the catkins of the water willows are daily growing longer, and in the sunny nooks and sheltered places the crowns of the crocuses and violets are filling with sap, and pushing upward. Innocence and purity are always brave, and so these plants, sweet and modest as they are, fearlessly expose their tender and blushing petals to the biting winds and bruising sleet, in full faith that they will be cared for and protected. Life is awakening in the veins of many plants, and it is interesting to watch its growth and expansion,—the renewed fulfilment of the promise that "seed time and harvest shall never fail."

March should be a busy month. The *wood* has been hauled into the yard, and if it has not been already cut and split, this must be attended to. We cannot afford to burn green wood. The time and patience of the good wife is too precious to be wasted in coaxing green wood into a blaze. Let the wood be well split, and a plenty of dry wood for kindling be provided, and let it all be well secured from the weather. We all know how much the comfort of the household depends upon this. Some of us were brought up to pile large logs upon the hearth, but the cooking stove has changed all that, and we must be willing to cut the wood short and split it fine. It will go further and accomplish its purpose much more conveniently, the women, also, like it better, and this last is a sufficient reason, if there were no other. Your wife is a good house-keeper, and why should not she be gratified? In connection with the woodpile, March is the proper time to split the rails and posts that may be wanted, and to provide a good supply of stakes to repair fences and to be used in the garden. Bean poles and brush for the early peas may as well be provided while you are about it. When you want to use them your time will be more valuable.

The tools should be carefully overhauled and repaired. Have a supply of points for the ploughs, put the harrows in good order, and see that the hoes and forks and spades are in good condition. If they are not, provide new ones of the best pattern you can find. See that the chains and yokes and harnesses are in good order. The comfort of the horses and oxen requires this. A little forecast in these matters will save time and trouble by-and-by.

The cattle require at this season special attention. They have been living for three or four months chiefly on dry food, and are beginning to suffer for the want of something more succulent. Their vitality is somewhat reduced. Breeding cows and sheep especially should be carefully looked after. Do not let them suffer from lice, but attend to them at once, if they show indications of being infested with them. If you have kept your mangolds till now, begin to feed them out to your cows and sheep. They are just what they need at this season, and as they keep better than turnips, should be kept till the last. They grow better by age—more of the sap being converted into sugar as they ripen, like a winter apple or pear. If you have not roots to give your cattle a mess daily, give them at least once a day a mess of cut feed, that has been wet and mixed with bran or meal and a little salt, and laid twelve hours in the feed trough. We do not now speak of cows that are fed for milk, but of those that are being wintered for spring and summer use. It is of the utmost importance that they should come out vigorous and healthy in the spring. Their profitableness through the summer depends upon it.

As *breeding animals* become heavy they should be kept dry and warm and carefully guarded against accidents and violence. Many a fine cow is ruined at this season by a strain or blow from the horn of another animal. Cows worth one or two hundred dollars are too valuable to be exposed to rough or careless treatment. At the time of calving, they require special attention. High blooded and high kept cows are probably more subject to disease and difficulties in delivery than hardier animals that are not as well kept. Their udders should be watched for sometime before calving, as they are liable to fill with milk and inflame. If there is much milk in them draw it off daily with gentleness. If they are swelled and no milk can be drawn, bathe them daily with warm water containing a tablespoonful of saleratus to a gallon, diminish the feed, and give a handful of Epsom salts daily until the heat and tenderness is removed. An inflamed udder often causes a premature birth, from the sympathy existing between that organ and the uterus. Care bestowed upon animals at any season, and especially at this season, is always well repaid.

Co-operative Farming.—Last season we noticed the formation of a "Planting Company" in the manufacturing town of Easton, Mass., of which Mr. L. Smith was a director. As an acknowledgment of our good wishes for its success a certificate of a share in the profits of a certain field was made out in the name of one of the editors of the Farmer. Some time since we received our dividend in cash, but the note enclosing it was mislaid, and its acknowledgment has been deferred in hope it would turn up. As yet it has not done so, and hence the above apology. We should be glad to publish some account of the year's operation if our planting friends will pardon our carelessness and furnish a brief history of their seed time and harvest.

Coffee as a Deodorizer.—A late number of the *Journal of Chemistry* speaks in high terms of the value of coffee as a deodorizer for the neutralizing of foul odors that emanate from organic bodies in a state of decay, as it can be used to advantage where other disinfecting agents would be inadmissible. In cases where rats die in the spaces between the floors of dwellings, the intolerable odor arising therefrom can be most effectually removed by placing a pound or two of fresh burnt and ground coffee between the floors. For the purification of a sick room it is incomparably superior to burning rags, as it has a beneficial chemical action on the atmosphere of the room, and gives besides, an agreeable prefume.—*Maine Farmer.*

BETTER CULTIVATION.

WE HAVE been struck with the earnestness with which the editors of the Western papers are calling the attention of their readers to the importance of better methods of cultivation to meet the fearful depreciation in crops which is taking place in the older portions of the grain States. Indeed they are beginning to inquire seriously whether they can much longer raise their own bread. Ohio, which used to export five or six million bushels of wheat per year, has imported ten millions within three years. Illinois will not much longer feed her population of two millions and a half, unless the fertility of her soil can be restored. But intelligent men are perceiving that it is only the surface of the soil that is exhausted and that there are yet in the soil, mines of wealth which deeper ploughing and better culture will develop, and a proper system of manuring will retain.

As the population becomes more dense farms will become smaller, cattle will be better fed and cared for, and manurial resources will be proportionally increased. In the mean time they must go below the surface for the needed supply.

In this connection we were much interested by a communication in one of our Western exchanges from Mr. Evans, Secretary of the Coles County, Illinois, Agricultural Society, giving an account of the result of premiums offered last spring, viz: for the best ten acres of corn $50; for the best five acres $25; for the best acre $10. There were eleven entries for the premiums. The best ten acres yielded 1066⅜ bushels; the second best yielded 1063½.

The first had been in meadow twelve years; was ploughed in the spring early, seven inches deep; harrowed thoroughly; planted three and one-half feet distant each way, with large yellow corn; ploughed five times with "prairie cultivator;" hoed twice; thinned to three stalks in a hill.

The second field was barley stubble, ploughed ten or twelve inches with three horses; planted two and one-half by three and one-half feet distant; cultivated three times with cultivator and once with shovel plough.

Another man raised 1050 bushels on ten acres; another 972½; and several others produced similar crops.

These statements go far to prove the benefit of a better cultivation than is usually given to the corn crop. They show that one hundred bushels can be raised by good cultivation even in an unfavorable year, and prove that diligent and vigorous stirring of the soil, instead of injuring it, develops its fertility.

A soil is surely worthy of good cultivation that will yield a hundred bushels without manure. So long as it will produce such crops, will it be benefited by manure at all? All it needs is generous cultivation at present. Manure would probably increase the stalk without a corresponding increase of grain. The time will come, and perhaps soon, when fertilizers will be required to keep up its productiveness, and they should be added as soon as the crops will bear them.

An Ohio farmer told us, a few years ago, that the difference between running the plough between the rows once and ploughing and hoeing thoroughly three times, was fifty bushels to an acre. By the first method, which was then generally practiced, fifty bushels were produced. By the second one hundred.

The population of Illinois is about twice that of Massachusetts, but her area is about seven times as great, to say nothing of the greater fertility of her soil and her more favorable climate.

We believe it would be as easy to double the present wheat crop by improved methods of cultivation, as it is the corn crop. Thorough ploughing and drilling in the wheat early in the autumn, so that it may make a stand that will enable it to resist the effect of the winter winds, will as surely give a crop of thirty bushels, as good culture in the spring and summer will ensure a hundred bushels of corn. Lime, and plaster and clover are important resources for wheat culture, and can be readily resorted to, where manure cannot be had.

It is to hoped that a better system of cultivation will long defer the time when we shall depend for bread upon the regions beyond the Mississippi.

For the New England Farmer.

THE GARDEN IN MARCH.

In our latitude, little outdoor labor in the garden can be done to advantage this month, as cold winds, frosts and ice prevail to a considerable extent. The most we can do to advantage is in preparation for later seasonable work, and this is equally important, and will often amount to more than actually ploughing and planting. In some very favorable localities it may do to prepare hot-beds, but generally April is soon enough for this. If a few pleasant days occur, do not be impatient to throw off winter protection of plants, vines, &c., for we shall have cold snaps, perhaps, to destroy such if unprotected. Recollect that it is not usually cold and freezing which injures plants, &c., but it is the change from freezing to thawing, and thawing to freezing suddenly, as stated heretofore.

The plant is made up of cells, through which the sap flows; each cell is separated from the other by a thin membraneous partition, and through this partition the sap finds its way from one cell to another till it reaches the extremities and the leaves, where it undergoes certain changes, and then descends through the alburnum or inner bark of the tree or plant. As it passes along in its downward course, substances are elaborated and absorbed into the structure which increase the size of the plant. Now if the sap begins to flow and is suddenly stopped, it operates similar to water flowing in a tube, where, if an obstruction is presented as the water flows along, there is a sudden strain on the tube, which, perhaps, causes it to burst, and thus renders it an imperfect conductor. In the case of the plant, the freezing, by expanding the liquid sap, bursts the partitions of the cells, and if severe, the ducts and cells are rendered imperfect conductors of the sap, and it takes the plant some time to recover, if indeed it ever recovers from the effects of such freezing.

Specific directions for the garden this month will be mainly a repetition of what has been given for one or two months past; instead of which I would refer the reader to the same, and ask, have they been followed? If not, I would urge him to lose no time in getting "a few turns ahead" with his spring work; and in the place of the regular calendar will say a few words about seeds, the time they retain their vitality, &c.

All will agree upon the importance of good seed, but all are not as careful in saving and procuring them as they should be. As there is great difference in the circumstances under which seeds are kept, there can be no positive data fixed as to the time they are capable of retaining their vitality. When, therefore, we see tables giving the time that seeds will retain vitality we are to understand that the natural requirements of such seeds have been complied with.

All seeds of vegetables should be kept in an even temperature, where they will neither dry up nor gather moisture, in ordinary paper bags, or in paper or wood boxes. How long they would keep if hermetically sealed, or so close as to exclude all circulation of air, is unknown, but undoubtedly many years would be required to entirely deprive them of all vitality.

Cucumber, melon, squash, and pumpkin seeds will retain their vitality ten to twelve years; and plants grown from the seed increase in fruitfulness for several years after being first saved, although they decrease in earliness of germination, as they attain age. Seeds that can be depended on only the season following production are, onion, parsnip, parsley, salsify, pepper, carrot, egg-plant, celery, summer savory, coriander, caraway, and sage. Other seeds vary from two to six years. Some writers regard beans of all kinds as sure to germinate only two or three years; but I have found no difficulty in keeping them and having success for four or five years. I have always found it safest, and would recommend others to purchase and plant *only fresh grown seed*, with the exception of those mentioned as improving by age.

Wm. H. White.

South Windsor, Conn., 1869.

GARDENING BY A WOMAN.

A widow lady of Boise City, California, has recently written several short articles for the *California Farmer*, detailing her experience and success in gardening. In her letter of November 5, she says:—

Have not I reason to sing and be glad? Only a little time ago the world looked so dark and dreary. Never can we forget the heart-ache and utter desolation of spirit we endured when calling at the dry good stores, book stores, and other places seeking employment as a saleswoman; all these applications were fruitless. One said, "We don't believe in woman's rights." We besought with tears a place to work at one-half the salary paid to young men. "Only take me on trial, I am sure I can try to please you." "No!" the answer came, "we should lose customers." Then, a woman's place is at home! What mockery! Home! yes, home, and yet not a home! because rent must be paid, wood bought, provisions, lights, everything,—and the active brain and strong arms that carried this burden were gone forever! No wonder thousands of woman are hurried on to swift destruction. Oh, that they knew the balm there is in the blessed sunshine and crisp frosty mornings, and the sweet satisfaction in sleeping, resting and singing, while the elements combine their powers to make her food grow. If old Ben Franklin and Prof. Morse were made happy by chaining the lightning—making it subservient to their will—why should not every toiling woman be equally happy when she wakes up to the fact, that she can, by simplest means, take into her service the natural elements and compel them to grow for her own use, luscious fruit, delicious vegetables and golden grain?

Slowly we cry "Eureka! Eureka!" we have found it. We can earn bread and books, clothing and comforts, and many more luxuries than any working woman, or a dweller of cities. We can stay at home, play with the baby, do our own sewing, keep house, write letters, read papers, and entertain company, go out as often as I wish. In a word, feel independent, healthy and happy, no annoyance of seeking work, no temptation to under price a poor woman to obtain it, no time spent in collecting bills from house to house.

The fruit from our garden has been sold at remunerative prices. The larger number of purchasers came to the house with their own carriages after it. Ladies come from towns twenty miles distant to buy slips of roses and verbenas, and later in the season for strawberry plants. And after filling all their orders we have left for our garden 1507 plants, trees, vines and roses. Such busy days; even our little "birdy-pet" could toddle about and help a little.

This seemingly barren hillside, has in two seasons, given us a larger salary than has been paid to any woman teacher in the Union schools of the country.

NEW YORK WOOL GROWERS.

The annual meeting of the Sheep Breeders' and Wool Growers' Association was held at Syracuse, Jan. 27. The *Utica Herald* furnishes a report of the meeting. The attendance was large, more than thirty counties were represented. Dr. Randall, president of the association, gave an opening address.

Hon. Geo. Geddes, of Onondaga county offered a series of resolutions on the subject of a reciprocity treaty, which were unanimously adopted; H. T. Brooks of Wycoming county, who declared himself a radical free-trader, made some remarks in favor of their adoption. Although believing in free trade generally, he entertained the opinion that if there were any articles of importation eminently fitted to be made subject to duties, wool was one of them. The facts stated in regard to its cheap production in foreign countries, and the comparatively small expense of importations, sustained this position. He believed that the tariff had been a benefit to the American wool growers. He would support the resolutions, because he did not think it just that Canada should be allowed to send her products, untaxed, into the United States, and pour the entire proceeds of their sale into the coffers of England.

As these resolutions are somewhat lengthy we copy a portion only, as follows:—

Resolved, That the experience of one Reciprocity Treaty, should be sufficient to protect not only the farmers, but all other classes of our citizens, against the repetition of such a folly. In the year 1854, before the treaty was made, our government collected, in duties on articles from the Provinces now included in the "Dominion," the sum of $1,524,457. After the treaty was in operation, our duties so collected, did not average more than $75,000 a year, for the whole ten years it was in operation. In the fiscal year that ended in 1867, the treaty being no longer in force, our government collected $5,400,000 in gold on Canadian productions, and in the two years that have passed since the termination of the treaty we have collected about $15,000,000, in our currency, on the productions of the provinces, that have been imported into the United States. This immense sum has gone into the national treasury, and our taxpayers have been relieved by so much.

Resolved, that "under the present condition of our revenue laws, competition between the people of Canada and the United States can only be on equal terms, when duties equal to those directly and indirectly exacted by our government from her citizens are levied on importations, the product of Canada."

Resolved, That we respectfully protest against the making of any treaty, or other arrangement, by which the trade and commerce between our country and the British Provinces shall be placed on any other different basis than they are with all other nations and provinces.

Resolved, That we, as farmers, are entirely unwilling to be traded off in any treaty that has for its objects the promotion of commercial or other interests at our expense.

Resolved, That this association is opposed to any reduction of the tariff on wool by treaty or otherwise.

The following officers, together with the usual number of Vice Presidents and an Executive Committee were elected for 1869.

President—Hon. Henry S. Randall, Cortland Village.
Corresponding Secretary—E. B. Pottle, Naples.
Recording Secretary—H. D. L. Sweet, Syracuse.
Treasurer—A. F. Wilcox, Fayetteville.

The subjects of the annual Spring Fair, of rules to determine the best sheep, the scouring test, &c., were discussed.

—In the rich heavy lands of the West and on some of the clayey farms in New England, cow yards are often sad places for male or female to set down in and milk from one to a dozen cows. The *Ohio Farmer* recommends that such yards be paved with blocks of wood. Logs of any size may be drawn up during winter, cut into blocks of equal length, say six inches, and squared at leisure. After smoothing off the surface of the yard, lay the blocks as closely together as possible and fill the interstices with gravel.

For the New England Farmer.

THE MASSACHUSETTS AG'L COLLEGE.

The progress and success of this institution has very naturally awakened a good deal of interest not only within, but beyond the limits of this Commonwealth; because few States have had the courage to use the aid granted to them by the General Government for the promotion of education adapted to the mechanical arts and agriculture in establishing independent schools or colleges, and because it is expected that whatever Massachusetts undertakes will be well done.

A leading attraction with many attendants at the meetings of the Board of Agriculture recently held at Amherst was to see and learn more of our new college than can be gathered from mere casual reports. The result of this three days' acquaintance may be briefly summed up by saying that the work that has been done upon the farm and the college buildings, the examinations of the different classes, the drill in infantry tactics, and the general appearance and conduct of the students produced a favorable impression. Several prominent speakers took occasion to publicly give their hearty endorsement to all they had seen and heard.

The President of a Berkshire agricultural society stated that it sent a petition to the Legislature last winter for the abolishment of the Board of Agriculture altogether, upon the ground that it was doing little or no good, compared to the cost of maintaining it, and in the belief that the money could be used in some other way with better results; but he was glad that petition was not heeded by the Legislature, for with the evidences which the past few days afforded, he was satisfied the Board was doing a good work, and that opposition to it arose chiefly from an imperfect knowledge of what it really was doing.

Prof. Agassiz said he had always favored connecting the agricultural school with some other college already in existence, as he feared if it was established as an independent institution it would be merely an imitation of the other colleges, of which there were already so many in the State that he had favored concentration instead of increase in their number to secure their greater efficacy; but seeing that the college had marked out a distinct course, and was taking an independent stand by adhering strictly to the objects for which it was designed, he would frankly admit he was not sorry his plan of annexation did not prevail; he only wished now the college had the money and professors requisite for carrying out promptly all its plans.

Thus the questions which have been agitated so long in this State, concerning the best methods of promoting agricultural education have been settled, at least for the present, and an agricultural college has been commenced, and men who entertained divers opinions are gradually coming round in its favor, and it only remains for the farmers throughout the State and our liberal patrons of the sciences to give it a cordial and generous support, to secure an institution second to none in the State for usefulness.

It may surprise some to hear that the college has many immediate and urgent wants. An impression is somewhat prevalent that it is to receive constant help from Amherst College. To a limited extent this is true; the latter has extensive libraries and cabinets of great value, but these can only be occasionally used or consulted. The plan of sending a class of fifty a mile and a half through mud and snow, and in all kinds of weather, for a place and means to properly conduct a recitation in chemistry or philosophy, as was done last year, is simply absurd. With equal propriety might a farmer always depend upon borrowing of his neighbors the tools and newspapers he wants in his daily work. Such a system of borrowing and begging is not consistent with the training model farmers are expected to receive. The Agricultural College should own all the books, apparatus and everything necessary for daily work and all ordinary occasions, and have them always near at hand in their own buildings. For one, I do not see how the old college can materially lessen the cost of the new one. Every college requires about the same outlay for buildings and endowments to put it in tolerable working order. Therefore if there is a loud call for help for a few years, it will accord perfectly with the natural course of events.

One want which will be made public presently cannot fail to commend itself to thinking men,—that is a department of veterinary art, with a competent instructor. The intimate connection between the health, quality and quantity of farm stock, and the cost of our own living, health and happiness is too apparent to require any illustration. The attainments of the present so-called cow and horse doctors, generally speaking, are entirely beneath the intelligence and good sense of our people; their remedies and methods of treatment are harsh, nay cruel and nonsenical in the extreme. The society for the prevention of cruelty to animals would find an interesting field for investigation, if they looked after their treatment in sickness as well as in health. If they see the defects of the practice, they would at once aid in establishing such a department. It is not expected that every student will become a professional practitioner; but the graduates when consulted in a case of sickness or accident to our dumb animals, ought to be able to give an intelligent answer, and suggest a merciful remedy.

Another want is a building for an armory and drill hall. Instruction in infantry tactics is required by the conditions of the grant from Congress. By having a commodious drill hall it is proposed to give special attention to drilling in winter and wet weather, and so omit it altogether on pleasant days when farm work presses. Whatever may be the precise value of the knowledge of military affairs acquired here, the time given to drilling will be well spent if it gives to the students an erect figure, well developed chests, teaches them how to walk, to be easy in all their movements, to be careful of their dress and to think more of personal appearance; for in all these particulars hard working farmers are inclined to be sadly at fault.

A third immediate want is money to pay the students for their work. Every college has some way for assisting needy students. Amherst has a fund of $100,000, called a "Charity Fund." Many who will come to the agricultural college will be unable to pay for their education. Such desire to work and receive help, if it may be so called, in payment of services rendered, instead of receiving it as a charity. In the present condition of the farm there is no income to pay for the regular work and permanent improvements at the rate they should be carried forward. It is extremely desirable that a fund be created at once to meet this deficiency, and our benevolent citizens, who really have at heart the rapid progress of their native State in all that is useful, will find an excellent opportunity to lend a helping hand. Money thus given effects a two-fold object—it assists the college and the students themselves. Young men who prefer to work rather than beg or to be indifferent and passive recipients of charity, may be ranked with those who make a good use of an education.

Other wants are apparent to every visitor. Work to be done meets the eye in whatever direction we turn. It is time the necessary buildings for a model farm were erected, or at least begun. It is time some progress was made in setting out trees and shrubs, both fruit and ornamental; in collecting tools and implements and in stocking the farm with desirable animals. The trustees have been in the possession of the farm four years, and people begin to look for some results beside removing old fences and buildings, tearing up bushes, decaying trees, &c. It is time there were residences upon the farm for the President and all the Instructors, and thus throw around the students greater restraint, more of home influence, and impart a social aspect to their life, which now is purely the dormitory or barrack style of living.

These are some of the wants, and it is true it will require a large outlay to meet them, and yet not a large sum compared to the interests they are designed to advance. Once supplied they have a permanent value; they become part of the real estate. The success of the college depends upon them. If it has not the means to rise above a first-class high school, with an ordinary farm attached, it can never command the patronage of our farmers; for they will not send their sons away from home to school when their own town or county offers the same advantages. But give the College the means to take the stand it ought, and its superior advantages will draw thither young men from all parts of the State. It is looking to the lovers of the sciences and the liberal patrons of agriculture for aid. It has assumed the name of the Commonwealth and may justly be regarded a State enterprise, and shall it receive less from a generous public than the other colleges? N. S. T.

Lawrence, Mass., Jan. 15, 1869.

REMARKS.—It might have gratified the curiosity of some of his readers had our correspondent given an estimate of the cost of supplying all the "many immediate and urgent wants" of the Massachusetts Agricultural College, to which he has alluded.

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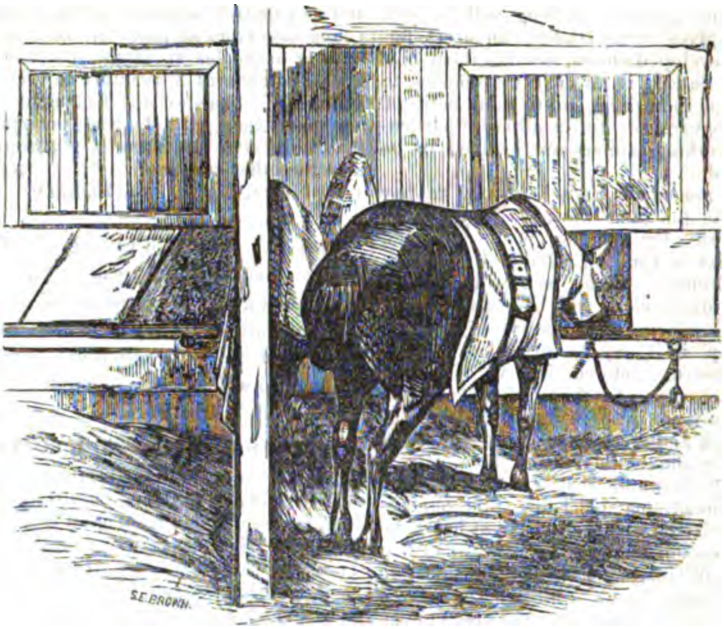
BEES, to be prosperous in the spring, should be well wintered. Every person owning bees should be well acquainted with the condition of every stand every month in the year. If you have not done so before now, turn up every stand and ascertain its condition. A little attention may save much, and make your bees prosperous in the spring.—*Bee-Keeper's Journal.*



PREVENTION OF CRIBBING.

Crib-biting is a very annoying and injurious habit, and one that has been decided by the English courts to constitute legal unsoundness. The horse lays hold of the manger with his teeth, violently extends his neck, and then after some convulsive action of the throat, a slight grunting is heard, accompanied by a sucking or drawing in of air. The teeth are often worn away and injured by the operation, and horses addicted to this habit are said to be much more subject to colic than others. Muzzles, neck-straps, and lining the edge of the crib with iron, sheep-skin covered with tar, aloes, and other unpleasant substances have been tried with more or less success.

Sir Peter Laurie of London devised the plan illustrated by the above cut, which in his case proved efficient. Our cut was copied from the *Illustrated News*, in which paper he made his process public.

It consists in preventing the animal from seizing the manger or any other object while tied up in the stable, by boarding over the space, as shown at the left, between the bottom of the hay-rack and the outer edge of the manger, forming a steep inclined plane. Portions of the boards or covering can be partially removed, as represented at the right, to enable the horse to eat at stated times.

The causes of cribbing are not well understood. Mr. Youatt suggests that it is sometimes induced by dressing horses in the stable, when they catch at the edge of the manger or something else within reach, and thus form the habit of laying hold of these things on every occasion.

IRRIGATION IN WINTER.—The popular idea that irrigation is good only for growing plants is erroneous. Water has a very important action upon any soil where there is good drainage, and makes the inert matter available for plant food. In the most successful case of irrigation that has come under our notice the water is kept running through the winter. The freezing in severe weather makes a complete covering of ice, which acts as a mulch. The grass starts early in the spring, and the crop s kept up to two tons to the acre, without any other fertilizer than water. There is a mine of wealth in every brook that can be turned upon a dry soil, if the farmer will work it.—*Rural New Yorker.*

SALTING GRUBS.

A correspondent of the *Lansing, Michigan, Republican*,—"S. H."—probably our friend Sanford Howard,—very justly criticises the little paragraph in the FARMER, Dec. 12, about killing grubs with salt. The writer objects, in the first place, that the term "grub" is too indefinite, as the word is applied to the larvæ of various insects. In the second place, no part of the field was left unsalted, to see what would be the difference between ground salted and unsalted; therefore it is possible that the disappearance of the grubs was the result, not of the salt, but of some other cause. Insects appear and disappear in a very mysterious manner, and "in cases where substances are applied to destroy them when they are nearly ready to pass into the pupa state, their sudden disappearance leads superficial observers to conclude that the application has destroyed them, when in fact it has had no effect whatever."

In this case, the writer doubts whether the salt had any effect upon the worms, and says:

> To test the efficacy of salt for the destruction of "grubs," we have applied much larger quantities in proportion to the surface, in boxes in which cut-worms, wire-worms, and other species were placed, without the least injury to the worms, some of which passed into the pupa or chrysalis state, to all appearance in perfect health.
>
> Ignorance of the habits of insects probably leads to many wrong conclusions in regard to the effect of substances applied to destroy them. It is not always known that they stop eating when they have reached the full period of their larval stage, and generally pass out of sight.
>
> The lesson to be drawn from these cases, is that the science of entomology should be studied by every person who has anything to do with the farm or garden. A better knowledge of natural history would prevent the occurrence of many ludicrous and serious mistakes; would save the expense and trouble of applying useless nostrums for preventing the depredations of insects, or for destroying them, and teach the best methods of preventing their ravages.

In this connection we would recommend a work now in course of publication, entitled, "A Guide to the Study of Insects, and a Treatise on those Injurious and Beneficial to Crops, by A. S. Packard, Jr., M. D., Salem, Mass." The work is well illustrated, and is sold in regular numbers, at 50 cents each.

RECIPROCITY AT THE WEST.—In a letter to the editor of the *Ohio Farmer*, R. M. Montgomery, Esq., a leading farmer of that State, says:—"The first we know, the morning papers will announce the ratification of a 'Reciprocity treaty' with Canada, and then—good bye to the growth of combing wool in the States, and (by sympathy) good bye to the profits of wool growing in general. And as this is but the 'beginning of the end'—good bye to the arrangement of a compromise tariff between the growers and manufacturers. In short—good bye to any effective wool tariff, and hail to a free competition with Mestiza wool."

VERMONT STATE SOCIETY.

We learn by the Bellows Falls *Times* that the annual meeting of the Vermont State Agricultural Society was held at that place Jan. 5, 1869.

Hon. Joseph Colburn, of Springfield, presented resolutions against the re-establishment of the recently abrogated treaty with Canada, and they were adopted.

The following officers were chosen:—

President, Henry Keyes, of Newbury.

Vice Presidents, H. G. Root, Bennington; H. S. Morse, Shelburne; W. R. Sanford, Orwell; Crosby Miller, of Pomfret.

Secretory, Henry Clark, of Rutland.

Treasurer, J. W. Colburn, of Springfield.

Directors. Edwin Hammond, Middlebury; Elijah Cleveland, Coventry; Geo. Campbell, Westminster; Henry Hayward, Rutland; John Gregory, Northfield; N. B. Safford, Hartford; Henry B. Kent, Dorset; Lawrence Brainard, Jr., St. Albans; David Goodell, Brattleboro'; Edwin S. Stowell, Cornwall; Jas. A. Shedd, Burlington; Henry Chase, Lyndon; Geo. A. Merrill, Rutland; C. Horace Hubbard, Springfield; S. G. Holyoke, St. Albans; L. S. Drew, Burlington.

Edwin Hammond was elected the member of the executive committee of the National Wool Grower's Association of Vermont.

An address was delivered before the meeting by the retiring President, Hon. John Gregory, of Northfield.

For the New England Farmer.

NEW HAMPSHIRE FARMERS' CONVENTION.

Acting upon the advice you have often given to the readers of the FARMER to visit each other's farms, and to attend fairs and discussions whenever possible, I was present at the recent gathering in Manchester to learn something about New Hampshire farmers and their agriculture. I will not attempt any report of the various lectures, supposing you will receive one from another source, but send a few thoughts suggested by the occasion.

The Convention was well attended by an intelligent and appreciative audience. The lecturers were earnest men and manifested a deep interest in their various specialties, and generally came to the subject assigned without useless apologies or time-wasting preambles. The managers, in assigning so many topics for two day's work, displayed a prominent characteristic of New England farming,—that of attempting to cultivate a large farm with a small capital. Of course, no one could be thoroughly discussed. A spirited discussion in such meetings is often the most interesting part, and when so many men of ripe experience are assembled, there should be opportunity for them to join in it.

But the Convention as a whole, and for a first one, was a success, and there was a universal desire that there might be many similar ones in the old Granite State. The club, whether town, county or State organization, is a powerful means of disseminating information and awakening an interest in agriculture; and winter is the best time for conducting it. The efforts which have been made for introducing discussions at the Fairs have been feebly supported. The attendants on those busy occasions manifest no disposition to engage in serious discussions; indeed it is difficult to gather a quiet and attentive audience of respectable number to listen to the regular address. The club must be supported, independent of the fair, and when prominent men, like the lecturers on the present occasion, or at the recent meeting in Amherst, Mass., are to take part, it does pay to drop all care and work and go a long distance to hear them. Newspaper reports do not always convey an adequate idea of what is said and done, even if the lecture is given in full. There is pleasure in seeing the speakers, hearing the words as they are uttered, and listening to the private talks and discussions, and the acquaintances one makes are often of great value. Since the Lyceum and political gatherings are so popular, it is difficult to see why farmers' meetings are not better attended. Some of these addresses contain more thought and are of greater practical value than many popular Lyceum lectures for which from fifty to one hundred and fifty dollars is willingly paid.

The lecture of Col. Lang upon "Raising of Horses" was a treat to all lovers of the equine race. He gave the principles and rules now generally received and adopted by the prominent raisers of horses in a manner that showed he felt the force of every word uttered, and interspersed just enough of his personal experience to convince the hearer that a practical man, and one who thoroughly understood his subject, too, was talking. It had cost the Colonel many years of study and observation with a large expenditure of money to arrive at these conclusions. If the horse raisers of New Hampshire can obtain all this mature and desirable experience by merely travelling the length or breadth of the State and back again, it is cheaply bought. The principles he advanced were also in the main applicable to the breeding of other domestic animals.

The remarks of Dr. Boynton were consoling to desponding sheep raisers, for he plainly showed that sheep are an economical and profitable part of farm stock, and that our New England hills are particularly adapted to producing a superior quality; that the present depression of the business is owing not to the sheep themselves but to the errors of men in not selecting the right kind for their particular locality and to the crooked and perverse legislation of our politicians.

No one could listen to the paper upon "Fish Culture" without wishing he owned a pond or brook, which he could immediately stock with those desirable varieties once so abundant in our waters. At present the profits in this business are very large, and an acre of water can be made to yield more than an acre of land.

The discussion upon corn was very interesting and clearly proved that with good culture it can be raised here for from fifty to seventy-five cents per bushel. Do the average of Western farmers find a wider margin for profit?

I was surprised that the testimony in favor of phosphates was so general, but while all advocated their use, they admitted that the greatest frauds were practiced in the manufacture and sale of this special fertilizer, and it was proposed that legislatures should take measures to prevent this species of cheating. I doubt, however, if in the present state of society, legislation can entirely correct the evils complained of. A better way is for farmers to manufacture the articles for themselves, either upon their own farms, or, what would be more economical, form associations or companies, where, under the supervision of some competent and reliable person, the demand of one or more counties may be supplied. By a careful study of the soil of that locality, just the article needed could be made. A company formed near Portland, Maine, upon this principle, has succeeded beyond all expectation.

Much might be said in favor of every lecture, but I hasten to notice a subject incidentally alluded to by one speaker,—the present condition of the agriculture of the State. The great emigration of the native born citizens is well known; it has been carried to so great an extent that the increase of population from 1850 to 1860 was only 2.55 per cent. This increase is found chiefly in villages and cities. The rural districts have lost in two ways; one from the removal of whole families westward, the other from young men and women leaving the farm for other pursuits. It can hardly be expected that agriculture could advance much, if any, with such a drain on the youth, energy and strength of the population, and we find that during the same decade the increase in wheat was 53,308 bushels; in barley 50,847; in oats, 355,832; in buckwheat, 24,701; while in rye, there was a decrease of 54,869; in corn, 159,042; in potatoes, 167,476 bushels; likewise there was a decrease in hops of 126,946 pounds; in cheese, 964,471; in butter, 20,292. The returns of stock show an increase of horses, 6,868; of cows only 603; a decrease of oxen 7512; increase of all other cattle 3469, making for all neat cattle an actual loss of 3440. In sheep there is a decrease of 74,222, in swine 11,552.

The agricultural part of the population were in no condition to well sustain the effects of the war with its attending high prices. The scarcity of labor and increased cost of production was a great inducement to cultivate less land, hence farming operations were materially curtailed. The estimates of the statistician at Washington shows that the State has not to-day, except in sheep, as much stock as in 1860. They likewise show a steady increase in wheat and oats and a heavy falling off in all other crops. Judging from these estimates the census of 1870 will show the quantity of products to be about the same as in 1850, though there may be decided improvement in quality. There has never been a better sale of produce than during these twenty years; home markets have improved, and the numerous lines of railroads which have been built have given greater facilities for reaching Boston and other markets. The number of farms for sale, and which can be bought for less than the buildings and fences are worth, is surprising. Thus it will be seen the progress of agriculture is slow in the old Granite State—there is even danger of a retrograde movement. What is to be done? Col. Clough struck the key note for action, when he said the aid of the legislature must be invoked. Since farmers constitute the majority of her voters; own the bulk of the property, and have the largest share of the taxes fall upon them, whatever they may ask of the legislature they can have. N. S. T.

Lawrence, Mass., Jan. 2, 1869.

For the New England Farmer.

CUTTING TIMBER FOR DURABILITY.

In your issue of the 2d inst., you ask for opinions as to cutting of timber at different seasons of the year. For one, I am strongly of the opinion that, for all soft or evergreen timber, from the 15th of May to the 15th of August is the best.

And in proof of the statement, will relate an incident that came under my own observation. On the afternoon of the 3d of June, 1861, a company of young men cut a very nice spruce, not large nor high, only 66 feet, and of good proportions, peeled and raised it where it stands to-day, as sound as when it was first cut. I know this to be the fact, as one day last summer, in company with others, I dug around the bottom and found it sound.

I also can show any one that wishes to see with his own eyes, balsam poles that were cut and peeled and laid up in fence in June, more than fifteen years ago, that are sound to-day; while others that were cut early in spring, and not peeled, and have not been on the fence more than half as long, are quite rotten.

One gentleman says he would leave the bark on, so as to keep it moist. I would take it off for the purpose of letting it dry. For more than twenty years I have been obliged to support a farm bridge over Brown river, and have helped put on stringers, always hemlock, at different seasons of the year, and remember of putting on two that were cut in winter—we did not take off the bark—and they lasted only four years; while now I can show some that have been on twelve years, that were cut the 18th day of August.

It will take but little time or trouble for any one to make a trial of cutting timber, if they will only go at it; that is the hardest part. Almost all farmers are obliged to cut sleepers or the like for their stables, and if they do not find that the dry timbers for such places are the best, then their experience is far different from mine. I think that it can be clearly shown that hemlock, when used where it is damp, will last three times as long if cut and peeled in June and allowed to dry one year before it is put in place.

I did not mean to say but a word about the article alluded to, but it was so different from my own convictions of right, that I could not refrain from speaking. E. J. BUTTOLPH.

Essex, Vt., Jan. 5, 1869.

For the New England Farmer.

BEST TIME TO CUT TIMBER.

In the FARMER of the 2d inst., you ask the experience of your correspondents with regard to the best time to cut timber. This is a very important matter in our country, where timber is becoming so scarce and the demand for the different practical purposes of life are so rapidly increasing, and it is worthy the attention of the economist, if the best time is not already known, to ascertain when it is.

In our experience, which has been of many years, we have found that the more rapidly timber seasons in the open air, the greater will be its duration. Hence, timber cut in June, when the days are long and warm and the force of evaporation is great and rapid, we have found to be the heaviest after seasoning and the most durable.

But the general force of evaporation is not the only cause of rapid seasoning at that season; for then, as every one familiar with timber knows, the bark is easily separated from the wood, and by removing it, we expose all parts of the surface of the timber equally to the action of the atmosphere, and of course, being operated upon in all its parts, it seasons through more thoroughly.

Take, for instance, the chestnut, which has become one of our most valuable timbers, and when it is cut in June and stripped of the bark, the sap wood, which rots soon cut in any season with bark left on, becomes hard and lasts for years.

We have found also that timber which is cut when the sap flows most freely, say in the freezing and thawing days of spring, possesses the least vitality and is most liable to rot. Then, too, the bark adheres closely, which in a measure prevents the evaporation of sap; worms find their way to the wood and injure it, and what is termed "powder-posting" often results to the serious injury of the wood.

But there are other considerations in the case, equally important with the durability of the timber. The preservation of the forest is no less important than the durability of its productions. And here nature furnishes a wise provision to effect both objects, for it is a fact that the seasons most favorable to cutting timber for durability are also most favorable to its reproduction. The chestnut and other trees which are reproduced by sprouts from the stump or old roots send up vigorous growths from stumps of June-cut trees, and also when trees are cut in early winter. Where heavy bleeding from the stump follows the cutting down of the tree, the vital energy of the roots appears to exhaust itself more than at other seasons, and in many instances no sprouting up follows. This is eminently the case where timber is cut in February, March and April. If we wished effectually to clear a field of wood, we would by all means remove the timber during these months.

WILLIAM BACON.

Richmond, Mass., Jan. 4, 1869.

For the New England Farmer.

HOW SHALL WE IMPROVE OUR FARMS?

One tells us to keep stock, another to buy commercial fertilizers, another to make compost, and another to plough in green crops,—each and every one contending that his method is the shortest and most economical. Now, how many of these theorists know whereof they speak; or, in other words, have figured the exact cost of their favorite methods?

In the case of the commercial fertilizers, it is very easy to get at the cost, but with the other methods it requires time and much care with some figuring to bring worn-out land to a state of fertility; and when done to know what it has cost. Now I do not profess to be able to do this, but I have been at work at it for the past ten years and have kept as close an account as possible under the circumstances.

Ten years ago I purchased thirty acres of worn-out land. The soil a slaty loam, and so thoroughly worn out that one field of five acres gave only four bushels of rye to the acre the previous year. I decided to try ploughing in clover on the piece, if I could get enough started to plough in. In the spring of 1858 I ploughed and harrowed, then sowed fifty pounds of clover seed, and bushed it in. In the latter part of May I sowed five hundred pounds of plaster, costing $2.00; ploughing and harrowing cost $15.00; clover seed $5.50; labor, sowing, &c., $2.00,—total for the first year of $24.50. The clover came up very well, but did not make much growth, and about one-third of it winter-killed. The remainder started in the spring and made some growth, about enough, my neighbors estimated, for half a ton of hay to the acre. The last of June I ploughed it under, and in September ploughed again and sowed one bushel of rye to the acre. The cost this year was the clover crop, one-half ton hay to the acre, two and a half tons worth $20.00, less one-half for harvesting, leaves $10.00; five bushels of rye $5; labor $17.00,—making $32.00 the second year, and with the expenditure of $24 50 the previous year, a total of $56.50.

The next spring sowed fifty pounds of clover seed, $6.00; five hundred pounds plaster, $2.00; harvesting and threshing rye, $17.50; total for this year, $25.50, or $72.00 for the three years' cultivation. I had now a crop of thirty-five bushels of rye, worth $35.00, to deduct from former indebtedness, which leaves it $47.00.

The next summer the clover was estimated to be equal to a ton of hay to the acre; allowing one-half for harvesting, it would be worth $20.00; this was ploughed in and sowed to rye, one and a half bushels to the acre, $7.50; labor, $17.00; making a total of $44.50 for the year, and $91.50 for whole four years. Sowed clover in the spring as before, also plaster at a cost of $9.00; harvesting, threshing rye, &c., $22.00, making $31.00 for the fifth year, or $122.50 for the whole. I had fifty-six bushels rye, which, at $1.30 per bushel, amounted to $72.80, which reduces the expense to $49.70.

The sixth season went through with the same formula with a cost of $60.00, increasing the expense to $109.70. The seventh year the expense was $42.00, and the income ninety bushels of rye at $1.65 per bushel, making $148.50, which lacks only $3.20 of making the account even.

The eighth year I mowed two tons of good clover hay to the acre, worth at that time $15.00 per ton, or $75.00 for the half of it, allowing one-half for harvesting, which is more than is customary in many places.

I have thus brought the land from four bushels of rye to the acre to eighteen, and from half a ton of hay to two tons, by the use of nothing but plaster and clover, and in the eight years have made it pay all the expense of doing it, except the interest and taxes, and at the present time it has paid up all those and a little to spare.

I paid $20.00 per acre, but this same land in its present condition would have brought $50.00 per acre at the time I bought it. It will now bring $80.00.

This piece of land was remote from the barns, and so situated that it was very difficult to get barnyard manure to it. Now the question arises, can one buy a worn-out farm, run in debt for part of it, make a living, pay his interest and taxes, and bring it to a good state of fertility by ploughing in clover with a prospect of ever getting out of debt? I answer, that according to my experience, it would be up-hill work and require a lifetime to do it. Better buy good land and pay double or thribble for it, and buy less. But the man who owns such land and is clear of debt can permanently enrich it in this manner; but whether he can do so at less expense in this way than in some other remains to be seen. Hereafter we may discuss the cost of other methods. J.

Oak Hill, N. Y., Jan., 1868.

For the New England Farmer.

PLOUGHING,—SEEDING,—HARROWING.

Westminster, Vt., Farmers' Club, Jan. 11, 1869.—*Topic*—"Preparation of the soil for the reception of agricultural seed, best kind of seed to be used, and the mode of cultivation until matured."

Mr. Geo. Metcalf. I believe that in ploughing, the wider the furrow, if well turned, the better for the crop, leaving the sod less liable to be turned up by the harrow, more nicely mellowed and pulverized, and preventing grass getting so much the start at first hoeing.

E. Lord. I am satisfied that the narrower the furrows the better, even partly set up edge ways. The "Eagle Plough" will do it. Plough about eight inches wide and four deep for corn, when the manure is to be turned under, and the next spring plough the same ground six inches for sowing. I don't like flat turning.

Octavius Fisher. I endorse Mr. Lord's depth of ploughing. I use the "Cylinder Plough" No. 1. Furrows some ten inches wide.

W. R. Kimball. I recommend the "Telegraph Plough" No. 3, manufactured at White River Junction, Vt., not only for the execution of the work, but ease of draft, as the plough for our locality.

Austin Goodrich. I would like to inquire if fine tooth harrows pulverize the soil better than a medium number of teeth.

Mr. Lord. Not if the coarse tooth harrow is more often applied.

Austin Goodrich. I would recommend the sowing of cereal grain in drills. I have observed in the West that where sown in drills it did not lodge as badly.

Mr. Fisher. I am confident that corn sown in drills would produce a larger crop than in hills, but in this "witch grass" section might be more labor to cultivate.

M. W. Davis. In this "witch grass" region I would turn the furrow in ploughing as flat as possible, and in reference to the use of the old straight tooth harrow, I had the presumption, if you may so call it, two years ago, to tell these farmers that these harrows were going out of use; that the effect of their use was to pack and make solid the land; whereas we wanted something to loosen, throw up and leave the soil light, on the plough and cultivator principle.

Robert Farr. In selecting seed corn I would have it eight-rowed, firmly packed on the cob; the butt end of the cob no larger than the tip, or not much, and plant all the kernels that grow upon the ear. Would not object to shelling it in "corn-sheller." The "Holden Corn," the variety used mostly here, is the best I know of.

Mr. Lord. I discard the kernels from both ends of ear, and plant the middle. My corn fills out well. I think *manure* plenty makes corn fill out well.

Mr. Goodrich. I plant a kind of corn produced by mixing the Holden and a longer-eared eight-rowed variety I obtained from Brandon, Vt. Many of the ears are twelve to fourteen inches long, well filled out. The first of this month I marketed some, and it weighed 63½ lbs. to the bushel. I hill up and get a better crop than when I kept the ground level. Hilling up corn endorsed by all present, though contrary to former practice.

Mr. Kimball. I recommend sending to the North part of the State for seed corn, oats, and timothy seed, occasionally, but I would send down South for clover seed, getting a smaller and earlier variety, producing a sweeter kind of hay. I have experimented with phosphate and with good results,—fodder stands up better.

Mr. Lord. The trouble in using phosphate is people are not careful in keeping it from the roots of corn. I would sow broad cast.

Chas. Nutting. I have used phosphate and had rather have so much manure. Same subject continued. M. W. Davis, *Sec'y.*

Bellows Falls, Vt., Jan. 12, 1869.

Reaction in the Sheep Trade.—As certainly as the sunrise always follows the setting of that luminary, so surely will there be a rise in the price of sheep ere long, and in all probability it will be a healthy, steady and lasting one—at least, it will only vary with the rise and fall of other agricultural productions. City people have commenced to use mutton to vary with beef, pork, &c., so that the demand will be regular, as butchers will feel compelled always to have some on hand, and those who supply the best families must have good quality; consequently "mutton sheep," as they are sometimes called, will be in request.

This is the time for "long-headed" men to consider the subject and take advantage of the low price of store sheep, for besides the demand for the supplying of the regular market, there is beginning to be felt a conviction among enlightened men that sheep are really necessary on farms of respectable dimensions, to assist in keeping up the fertility of the soil, which knowledge will soon make good flocks the rule instead of the exception, as is the case through the country now.—*Co. Gen.*

USES OF GUANO.

Guano, once so popular among us as a fertilizer, is now comparatively little regarded. And yet, when its employment is properly understood, and when obtained at a fair price, we are far from believing that its use is never economical. The evidences of its great power in producing crops are abundant and well authenticated. A certain amount added to the soil of the garden, and especially where root crops are cultivated for stock or market, such as parsnips, sugar, turnip or long blood beets, or carrots, would frequently double the crop. In such cases it is important that the crop should be as large as it is possible to make it, because the cost of getting the soil into suitable condition, by repeated ploughing, pulverizing, high manuring and tending, is large, and the value of the crop should be in proportion to the cost of making it.

When all the manure has been put into the soil of a field devoted to any of the crops mentioned, or into the garden, that can usually be spared, an expenditure of five to ten dollars per acre in genuine guano, would be very likely to add several times that amount to the value of the crop. If the crop were of the cabbage family, some other fertilizer, superphosphate of lime, for instance, might be better.

On a good granite soil, or on a rich, sandy loam, well drained, made fine and deep by ploughing and pulverizing, highly dressed with green manure in the fall and ploughed under the surface three inches, we have no doubt that from 800 to 1000 bushels of carrots may be got from an acre of land if 400 lbs. of pure guano is applied at the last harrowing before the seed is sowed, and the crop is well tended.

"It is only some thirty years since this fertilizer was first introduced to notice in this country," says a late English writer, "and now there is an importation into this country of about one hundred and fifty thousand tons. Few fertilizers ever did, in so short a time, attain so high a degree of popularity, or produce such significant results. In Scotland it has been perhaps more extensively used than in any other portion of the United Kingdom. The farmers in some sections of that country, practice manuring on a most liberal scale; and in one county, that of East Lothian, it has been estimated that about five dollars are expended for fertilizers for every acre of the cultivated land. Of guano, about $10 is frequently applied to a single acre."

In the Journal of the *Royal Agricultural Society*, an instance is recorded where a piece of rather poorish soil was manured with this quantity, and although about *five dollars* per acre was paid for *annual rent*, the augmentation of produce caused by the application was found fully to justify this liberal expenditure.

On land not exhausted, the effects of guano are not so apparent as on soils which have had their productive energies severely tasked; yet, even on soils of this description, it is by no means without visible effects. Poor soils, or naturally good soils that have been heavily cropped, are the most benefited by its application, and if from two to three hundred pounds to the acre be allowed, a fair crop of almost any kind of grain or vegetables may be relied on. And this ought not to cost, besides the expense of applying it, more than five or six dollars.

The effects of guano are not permanent—little if any benefit being derived from it the second season; and the same is the case with most concentrated or special manures. They act promptly but not permanently, and impart no constitutional improvement to any soil, unless the inorganic constituents may be regarded as tending to that result. The phosphates, &c., found in the mass cannot, considering the limited quantities in which they are used, produce any appreciable results on any soil for years, certainly, if they ever do so.

Many persons have applied guano without noticing any good results; so they have manure from their stalls,—but that does not prevent them from applying the latter again. We do not urge its indiscriminate use; but that there is great value in it, we have no doubt, and hope it will not be entirely abandoned. Its sale is a monopoly which we hope will be "crushed out," so that it may be obtained hereafter at fair prices.

—The Berkshire Agricultural Society has voted to abolish all premiums for trotting horses. It has also instructed its executive committee to take measures to protect farmers against imposition in the purchase of commercial manures.

WOOL-GROWERS IN DANGER.

The Wool-growers' Association of the State of New York is to hold its annual meeting at Syracuse, January 27. It appears to us that there are good reasons why every Wool-growers' Association in the land should meet and consult upon the woollen interests of the country. Indeed, we regard the questions of fine wool and coarse wools, of the winter or summer management of flocks as altogether secondary to those pertaining to the present duties on wool, to the proposed reciprocity treaty, &c. We fear that wool-growers are settling down into inaction with the belief that the wool business, having been long depressed, is now gradually to become more prosperous and profitable, and that farmers have only to wait patiently for the good time coming. This they might do safely, were other classes of our fellow citizens, who imagine that their interests are opposed to ours, contented to adopt a similar course of inactivity. The late movement in relation to the re-establishment of the reciprocity treaty, the tone of the city press, which represents the interests of the commercial, manufacturing and consuming classes, and the recommendations of the late report of Hon. David A. Wells, special revenue commissioner, excite our fears as to the safety of the "let alone" policy which farmers have so long been contented to pursue. We believe that Wool-growers' Associations have been, as Dr. Randall says, a power in the land, and that Congress has deferred to them on the important legislative questions pertaining to wool protection. We believe, also, that if wool-growers would keep these matters as they are, the work of these associations is by no means done,—that in fact there has been no period in the history of the woollen interest of the country when associated action was more needed than now.

We have been lead to these remarks by the perusal of an ably written article on the general subject of the tariff in the January number of the *North American Review*, a publication designed for the few, rather than the many; for the leaders, rather than for the multitude; for the governors, rather than for the governed. It is printed four times a year, at six dollars per annum, and probably finds its way to but few farm houses. It is, however, read by congressmen, lawyers, &c., and through these men it has much influence on public opinion, and especially on the legislation of the country. We copy that portion of the article which relates to wool, and ask for it a careful reading by every wool-grower:—

> To pass now to wool. In 1864 we sent out fleets of vessels to Africa, Australia, and the La Plata for wool, and imported eighty-eight millions of pounds, which was made into cloth. Our duties were then but three cents a pound on wool costing less than twelve cents, and but six cents a pound on wool costing from twelve to twenty-four cents. Since the war, although the apparent necessity has ceased, the wool-growers and manufacturers have combined to raise the tax both on wool and woollens, and the duty on all but the very coarsest wool for carpets has been advanced to an average of *fourteen* cents a pound. This duty is imposed on an article which cost on the average but seventeen cents when the advance was made, and which declined to fourteen cents during the last autumn.
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> Why should we pay a hundred per cent on wool, if we wish to compete in manufactures with other nations? If on the plains of La Plata or on the savannas of Africa the Merino can be pastured through the year, and the fine Mestiza wool sold for fourteen cents a pound, why should we tempt our farmers to leave dairies for sheep, and to set aside the cheese-press and the churn, when cheese commands seventeen cents and butter half a dollar a pound in our markets? If the Ohio or Vermont farmers cannot afford their wool for less than five times the price of that of the valley of the La Plata, let them not drive the *rancheros* into the dairy or beef-packing business, which gives such liberal returns. Do our Western farms, which government sells for a dollar and a quarter per acre, or gives outright to the actual settler, require protection, when France, England, and Belgium, with pastures worth four hundred dollars the acre, and with seventy millions of sheep in their possession, admit wool free of duty, and are farther advanced in the manufacture of cloth?
>
> Two years since, we advanced our duties on wool and woollens. We did it upon the delusive theory, that fine wool ought to cost over thirty-two cents a pound, and pay a specific coupled with an ad valorem duty. Then we assumed that woollens should pay a duty of fifty cents a pound for every pound of wool, jute, or cotton they contained, in addition to a heavy ad valorem duty. Meanwhile our trade with La Plata, Southern Africa and Australia is broken up. Our importation of wool falls from eighty-eight millions of pounds in 1864 to twenty-three millions in 1868,—a decline almost unprecedented in the annals of commerce. Our ships are thrown out of employment; for the return freight of wool gave them two-thirds of their profits,—and the foreigner cannot buy the outward cargo, unless we take his wool in payment. Our factories lose their supplies. The merchant loses the export of flour, furniture, fish, petroleum, coarse cottons, and wooden-ware to the Cape and La Plata; and the wool, diverted from our factories, passes on to the factories of England, France, and Belgium, and is there converted into cloth. Nor is this the end of the evil. The cloth comes over to Halifax, St. John, and Montreal, seeks the frontier, and, with little respect for our duties of eighty or a hundred per cent, finds its way into our territory; and tours of pleasure are made across the border to replenish wardrobes.
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> The whole measure from beginning to end has been a mistake, and our woollen trade is depressed. England, France, and Belgium have long since abandoned the idea of a duty on wool, and have thus made their manufactures successful, while

> they are still among the largest sheep-producers of the world.
>
> But whatever may be done with the duties on woollens, there are a few articles made from wool abroad which are not manufactured here, and consequently do not compete with our own manufactures. Lastings, serge, and plush, however, which are not made here, are used extensively in the manufacture of ladies' and children's boots and shoes; and the single city of Lynn pays more than two millions yearly for these materials, which are now subject to a duty of eighty-five per cent. The shoe-manufacture has in the last decade been raised from a trade to an art. The lapstone and the leather apron have been discarded. The steam engine and the sewing-machine have superseded the hammer and the awl. Mechanism, in its various forms, prepares and fashions the slipper and the gaiter-boot, and relieves the artisan from the fatigue and monotony of a wearisome life. Should we hamper such a progressive branch of industry with duties of eighty-five per cent. on the material it is compelled to import?

The foregoing is all that the writer says of wool. Other articles of production and trade are, however, discussed in the same spirit. As it has been doubted by some wool-growers whether the present duties on foreign wool have in fact materially checked importation, the statement of this writer, expressing as he undoubtedly does the views of commercial men, is entitled to special attention. As a result of these duties, he says, "Our importation of wool falls from eighty-eight millions of pounds in 1864, to twenty-three millions in 1868,—a decline almost unprecedented in the annals of commerce." This fact, so encouraging to farmers, is the gist of the argument of this writer against the continuance of these duties. The glowing picture which he draws of the prosperity of the Lynn shoe manufacturers, who have succeeded in relieving "the artizan from the fatigue and monotony of a wearisome life," when placed in contrast with the well known depressed condition of the laborious "trade" of the wool-grower, will hardly be accepted by most farmers as a sufficient reason for the free admission of foreign wools and woollens.

But it is not our purpose to answer his arguments against the "delusive theory" on which the present duties on foreign wool are based. Our object is simply to bring before wool growers a specimen of the counsels and reasonings which will influence the action of Congress unless they are met and counteracted by those of the owners of the 30,000,000 sheep which the farmers of this country are now wintering in the hope that a better day is dawning for this important branch of the agricultural industry of our country.

Mr. Morrill, of Vermont, in reply to a farmer who complained to him on his return home, that his tariff did not sufficiently protect the wool-grower, replied, "Well, sir, blame yourselves for it. Why didn't you get your statistics and come to Washington and show them to us? The manufacturers were there in their strength. They showed us these things, and they had their influence there; and you wool-growers ought to have been there, too."

The owners of the ships, alluded to in the above extract, that have lost their freights of foreign wool; the merchants who have lost their traffic; the Lynn shoemakers who don't like to pay duty; the manufacturers and consumers of cloth generally, who wish to use Mestiza wool at fourteen cents per pound, will be present at Washington during the proposed revision of the present tariff, with arguments and statistics of which our quotation from the *American Review* is a fair specimen; but we are afraid that the wool-growers, scattered as they are over our whole country, will remain at home attending to their respective flocks of fifty or one hundred sheep, and allow public business to be managed by other people. Is this a good time for Wool-growers' Associations to go to sleep?

VERMONT AGRICULTURAL COLLEGE.—The Hon. John Gregory, of Northfield, in his valedictory address as President of the Vermont State Agricultural Society, delivered at the recent meeting at Bellows Falls, read the following letter from President Angell of the University of Vermont, with which the agricultural college is connected. It was written in reply to a request for information as to the present state of the agricultural branch of that institution.

> Two years ago last September, we organized courses of study in accordance with the Act of Congress, requiring instruction to be given in the application of science to agriculture and the mechanic arts. We provided courses for young men looking to either of the following pursuits—farming, practical chemistry, mining and civil engineering. We also provided military instruction last year. Our plans and methods have been widely made known through our catalogues, our annual reports to the General Assembly, circulars and the newspaper press. The number of young men who have thus far availed themselves of the opportunities afforded by us, has been small, and nearly all of them have desired the course of civil engineering. Of course we earnestly desire the interest and co-operation of those citizens who believe that science has any service to render to

agriculture. We intend to enlarge our facilities for practical scientific education just as rapidly as the demand for such training increases. We are always very happy to have visitors call upon us, and see what we are doing. We believe that we can satisfy them that it is no longer necessary to send the sons of Vermont out of the State, whether to obtain a classical education or a thorough acquaintance with the physical sciences in their application to agriculture and the mechanic arts.

NEW ENGLAND WHEAT CONVENTION.

In a late number of the FARMER I noticed a proposition for a grand Convention of Western wheat growers. Such a Convention, it strikes me, is more needed in New England than at the West. Here I think there is a positive necessity for such a Convention. The increased interest in the cultivation of wheat that has been manifested in all parts of New England, of late, would be still further stimulated. The past season Maine reports two hundred thousand bushels. None of the other States have been reported, but doubtless many other experiments have been wrought worthy of publication.

We have had Horse Conventions, Wool Conventions, and scores of other Conventions for the "public good," and now, we say, lastly and earnestly, let us have a great Wheat-growing Convention, embracing an interest, *unknown to nine-tenths of the yeomanry*, on whose farms hundreds of millions of bushels of wheat can be produced, requiring neither art nor skill beyond the cost or labor of getting any cereal crop. Let every town or county in the New England States be represented at some central point, say Boston, and there discuss this and other subjects, bringing into goodly fellowship a class of noble men, the tillers of the soil.

It behooves the New England farmer to protect his interest in this new occupation, partly in view of the West becoming large manufacturers of the heavy textile fabrics and agricultural implements, as well as supplying many of their domestic wants, for which they were formerly dependent on New England.

The question—"Can we grow wheat?" I most emphatically answer, we can, and to repletion, and we will. HENRY POOR.

Brooklyn, L. I., 1869.

REMARKS.—Our highly respected correspondent, Mr. POOR, has long been a zealous advocate for wheat raising in New England, and we doubt not his motive is a real regard for the best good of New England farmers. We fully coincide with his views, so far at least that we think *every farmer who has a suitable soil should raise sufficient wheat to supply his own family with bread;* and thus, in the important matter of bread, farmers would be independent of speculators and railroad exorbitance, and sure of sweet and wholesome flour. Further than this, each one must judge for himself.

We cannot raise wheat or corn or potatoes or grass without manure. The great problem with us is to get manure. We need every ounce we can obtain, and the question occurs to every one, how can it be most profitably used?

An acre of land well manured will give us twenty bushels of wheat. This same land with the same manure will yield fifty bushels of corn, one hundred and twenty bushels of potatoes, or two tons of hay. We need all the corn we can raise. This makes milk, pork and fodder, and leaves a valuable residue in manure. The potatoes and hay find a ready market. Which crop, then, is the most profitable? In the vicinity of the cities, other crops are more profitable than cereals of any kind, and the cultivator will raise neither wheat nor corn. The fifty bushels of corn are worth sixty-five dollars. The wheat forty-five or fifty. The potatoes eighty, and the hay forty. The first three crops require thirty dollars worth of manure each. The hay none, and the labor of harvesting is less. Each farmer must determine for himself as to the expediency of raising every particular crop. The corn crop is, and ever will be, the favorite crop in New England. If we had manure to raise all the corn we need, and to raise wheat besides, there would be less question about the matter. But if we must import the one or the other, will it not be cheaper to import flour?

One important consideration we have alluded to. The farmer likes to see his manure heap increasing. Wheat yields no manure, at least unless the straw is fed to stock. But corn stover is worth more for fodder than wheat straw. This question has received a good deal of attention already among the shrewd Yankees. The nature of his soil, his facilities for market, and for obtaining artificial manures, will assist in determining what crop each shall raise. In the northern half of New England, where the corn crop is more uncertain, it may be best to raise wheat as a leading crop. In the southern half, where the corn crop is the most certain crop we have, it may not be so.

We can see several good reasons why the wheat growers of the West may profitably hold a convention. In all the older wheat growing States, the crop is annually depreciating. The first question will be whether they shall attempt to continue the growing of wheat at all. What varieties can best be grown, if any; how the ground shall be prepared, and the seed put into it, and whether they shall attempt to raise wheat any further than they can manure the soil. They need an interchange of views and experience on these and other points belonging to this subject. But at present, with all due regard to the views of our correspondent, we are disposed to think that New England farmers will settle this question, each for himself, quite as well as by a convention. Still, we shall be glad to see the farmers in convention to discuss this among other questions. Great good would undoubtedly grow out of it. We shall heartily second our *State Boards of Agriculture* in any judicious plan they may suggest for awakening a new interest, and getting the opinions of the farmers.

WEIGHT OF HAY.

One of the most striking circumstances in the effect of a drought on the weight of hay may be seen in almost any hay mow at the present time, especially if it has not already been consumed. It affords the farmer an instructive lesson, and establishes a very important principle in the cutting and curing of hay.

It will be recollected that the last spring was an unusually wet one. Farmers did not get their planting done till late into June. This was followed by warm weather without the usual cold nights at that season. Grass grew rapidly and promised an abundant crop. During the month of July we had the hottest weather ever recorded. The effect on the grass crop was averse to consolidation of the juices that serve to make a crop with hard and solid stalks with the juices well-formed and dried. We well remember how green and lively the hay looked as we gathered it into the barn during the hot week. But if we examine that hay to-day we find the stalks are of exceeding loose texture, they are slender and flat. The round solid stalk is wanting. Cattle and horses will eat a large quantity of it. For milch cows and young cattle and horses it is no doubt excellent, and they will eat more of it than is actually necessary for them. It probably takes well nigh one-half more in bulk of such hay to carry along the cattle and horses than when hay is well ripened. These facts are observed, we presume, by every farmer in the State, the present winter.

This condition of things, it will be perceived, is the result of a sudden change from moist, warm weather to dry, hot weather. The stalks could not ripen well under such circumstances. To ripen well, it is especially necessary that the process should be a slow one, and this can be accomplished only after a long, wet spring, followed by a gradual drought. The saccharine juices are then matured and hardened. For working cattle and horses such hay is far the best. To give them such hay as most of us have, is much like giving a lumberman sponge cake for his dinner, instead of his pork and beans. For a farrow cow we should always like some early cut hay, even if it took more of it, but for a solid, durable quality, let the juices be partially hardened before cutting. The second bloom is probably the best time, and is generally recognized by farmers.

A careful observation of the past season in its effects on the hay crop affords an instructive and striking lesson. Economy in its use will certainly be necessary or many farmers will be compelled to buy hay the coming spring. Winter set in very early. In the northwest portions of the State it has been constant sleighing since the eighth of November. Two years ago sheep were not brought to the barn till the tenth of December. During the last month the sun did not cause the snow to yield but one day in the same vicinity, a circumstance almost without a parallel. We think that most of the hay cut last year may be measured out to stock without their suffering essentially. This is a matter requiring careful judgment. Give them one-third more in bulk than we usually have given them and we are sure they will not suffer.—*Me. Farmer.*

REMARKS.—Farmers in other sections who commenced feeding their stock earlier than usual the present season, are making the same complaints as to the spending quality of hay. Mr. C. Horace Hubbard of Springfield, Vt., says in the *Record and Farmer* that "Many a thoughtful farmer, who watches his hay-mows as well as his cattle and sheep, will notice that the hay disappears with unprecedented rapidity. The hay is 'very bulky,' but a forkful of it is light. The truth of the matter is that the value of the hay crop of Vermont the past season is less than usual, by a large per cent." He agrees with the *Maine Farmer* as to the cause, and adds that the English grain filled badly, and in many cases the straw rotted in the field before or after cutting. In view of the necessity of the closest economy in the use of all kinds of fodder, he suggests that experiments be made in cutting and steaming, particularly corn stalks, straw, &c.

—At a late meeting of the Herkimer County, N. Y., Farmers' Club, Mr. Whitmarsh spoke of a worm quite destructive to fruit trees that he had never seen before. It had a lion-shaped head, and when disturbed seemed to resent it by drawing itself up and shaking its head. It is larger than the common apple tree caterpillar.

EXTRACTS AND REPLIES.

SOOT AS A TOP-DRESSING FOR GRASS LAND.

You will oblige me by information through the FARMER as to the value of soot as a top-dressing for grass land, and as to the amount required for an acre. D. M. HODGE.

East Canaan, N. H., Dec. 29, 1868.

REMARKS.—In reply to a similar inquiry, last year, we remarked that in England soot is regarded of much value as a fertilizer, and it is also used to protect plants from insects. It is said that as high as $45 per load has been paid in England for soot for the purpose of killing insects. Three or four quarts of soot dissolved in a barrel of water is said to be about equal to guano as a liquid manure, especially for flowers. About eighteen bushels is said to make a valuable dressing for an acre. We have generally thrown what little soot we have been able to procure into the compost heap, and have never experimented with it by itself.

FARMING IN ILLINOIS.

Enclosed please find payment for the NEW ENGLAND FARMER. When I wrote you one year ago I had not money enough to pay one year's subscription. Now, although I have none to give away, yet I have sold oats, corn and rye enough to pay expenses so far, and have about 2500 bushels of corn left. The oats, after drawing nine miles, sold for 37 cents per bushel, and the corn at the same place bringing on an average 35 cents per bushel.

I would like to state a few facts, especially to the young men in New England, who have never been "out West." In order to raise good oats we do not plough, unless it be in the fall, except with a double shovel, which is like a cultivator with two large teeth. On old corn land, hundreds of acres of small grain are put in with no other work except to sow and harrow in. One man with a pair of horses can plant and cultivate from 30 to 40 acres, besides raising some small grain.

My corn, of which I planted 100 acres, will average a little more than 40 bushels to the acre. I think, without doubt, I could have measured off an acre near the stable that would have yielded not less than 75 bushels. The help that I have had was one man and a boy of 15 years; teams, one pair of mares, both of which had colts, and two pair of mules. For common farm work I prefer mules to any team that I ever used. The teams here, when worked, are usually fed all the corn they will eat. Horses will commonly eat from twelve to fourteen good ears of corn three times a day. Mules will not eat as much. I have one pair that will not eat more than half that quantity.

On one thing my mind is made up, and that is, if a man wants to get rich on a farm without working, he might as well stay in New England as to come to Illinois. Although the land is much better, and it is not necessary to use any manure here to insure even larger crops of most all kinds than are raised in New England, and good stock hay may be had in any quantity for the cutting, and thousands of acres of corn fodder are burned every year, yet I think it is just as essential that a man have some capital here as anywhere else. If any man wants to come West, let him come and work out one year for some enterprising farmer. If he is satisfied and likes here, then, if he be possessed of an ordinary business capacity, let him go at it in earnest on his own hook, and if he has his health and is industrious and patient, he will do well, and if he should think, as I do, after having been here two years, he could hardly be hired to go back East to farm.

Last spring I sent to Hartford, Vt., and got and sowed fourteen quarts Norway oats; but it seemed that my neighbor's predictions were about right in regard to their productiveness. They did not yield more than the common oat, but I am going to give them one more trial. A. R. P.

Middletown, Ill., Dec. 29, 1868.

FROM THE FACTORY TO THE FARM.

I see by the date on my paper that it is time for me to renew my subscription for 1869. Though a little short for money just now, I cannot get along without the FARMER. I should scarcely know how to run my farm without it.

I commenced here ten years ago, a green hand from the factory, with only eight hundred dollars in money. I purchased a farm for $1750, and went to work under the directions of the NEW ENGLAND FARMER.

My first operations for the improvement of the farm were on wet land that was almost worthless and unproductive. It is now the best and most profitable part of my farm, producing a ton of good hay per acre. At first my neighbors laughed to see me drawing stone for underdraining. Some predicted that I should spoil my land with so many stones; others said that if I kept at work in that way I should soon be obliged to sell my farm. But instead of being obliged to sell any part of my farm, I have added over fifty acres to it. I am always glad to have you write anything about reclaiming or improving wet land.

I have twenty acres of meadow land that are annually flowed. I can mow about one-half of it with a machine. But there are bogs that bother me in raking. I have always used a revolver, but cannot rake much of my meadow with it. Is there any horse rake that will operate better than the revolver on such land? On this point I should like your advice, as it may save me some hard work.

Please excuse the foregoing as it is the first time I ever tried to write anything more to an editor than a mere note enclosing my yearly subscription.

J. W. DANA.

South Amherst, Mass., Dec. 28, 1868.

REMARKS.—We have seen the *Bay State Horse Rake* do the work quite well on land so rough that we thought it impossible to rake it with any thing but a hand rake. The surface had not only hassocks, but numerous ragged rocks, around which clung the creeping blackberry vine. It was too rough to put any machine into, and was used for the purpose of testing the rake. It also had low, wet places, but was not a bog.

CULTIVATION OF CORN AND POTATOES.

Several years ago I concluded to take the NEW ENGLAND FARMER for the purpose of learning how the Down East Yankee farmers contrived to make farming pay on land not generally very fertile. Of the many articles from ingenious and skilful cultivators, one on the cultivation of corn and potatoes was worth to many of its readers the cost of the paper for many years. As it is some years since that article was published, its leading directions will bear repetition. I do not recollect the precise language given in the case, but it was substantially as follows:—

In "marking out" land for corn or potatoes, make the marks as straight as possible one way. Then, in the case of potatoes, plant early, and as soon as the plants are up sufficiently to show the rows, go over the field with a cultivator, twice in a row, so close to each side of these straight rows as to deeply and thoroughly work the soil in the hills or rows. Thus early before the plants have extended root growth no harm is done them by close cultivation. This can be much more thoroughly and advantageously done where the rows are *scrupulously* straight. Give ordinary or suitable after cultivation. There might be an advantage in first going over the potatoes with a square harrow inverted, as is recommended of late. In cultivating corn after this mode, be careful to cover as little as possible and allow none to remain uncovered.

The first acre of potatoes that I raised on "this line" didn't "take all summer," and they were so large and uniform in size and every way so nice that I charged six cents per bushel above the market price for them, in "cheap times," and got it. How differently situated are crops, cultivated as described, from those which are allowed to grow (take their chances) in hills or rows a foot or more across uncultivated (except perhaps scratched with a hoe) and sure to dry out and become as compact as you please, only more so.

Isaac Ide.

East Shelby, N. Y., Jan. 2, 1868.

POULTRY ACCOUNT.

For a year past I have kept an account of the cost and profit of keeping poultry. I have not speculated any in fancy breeds, but have kept an old fashioned kind. I have fed a great variety of food and think it is well to change often, and to give them plenty of warm drink in winter. The following figures will show the state of my affairs:

1867.	Dr.		
Dec. 24, to 7 hens, at 50 cents,		$ 3 50	
" " 6 pullets, at 30 cents,		1 80	
" " 1 rooster		40	
1868.			
April 7, to 13 eggs for setting,		27	
" 21, " 3 hens, at 50 cents,		1.50	
May 8, " 13 eggs,		27	
" 15, " 12 eggs,		23	
June 31st, " 15 eggs,		33	
Nov. 1, to 1 rooster.		50	
Dec. 24th, to cost of keeping one year,		$25 48	
			$34.33
	Cr.		
Dec. 24, by stock on hand.			
" by 5 hens, 12 pullets, 2 roosters,	50 cts,	$ 9 50	
" " 4 late pullets,	30 cts,	1.20	
" " 26 fowls killed,	50 cts,	13 00	
" 120½ doz eggs laid one year, 25-33		33.55	
			$57 25
Profit			$22.92

Winchendon, Mass., Jan. 1, 1869. J.

MILKING A KICKING COW.

In reply to your correspondent who inquires for some way to milk a kicking cow without tying her in some of the various ways that have been recommended, I will give a little of my experience in that line; premising that no one ought to undertake the job just before a shower when he has a load of hay in the field that he is anxious to get into the barn. To milk a good experienced kicker without tying, requires time and patience. I once bought a cow of a man who said no one could milk her without tying her legs. I first cleared my stable as for a dancing party, drove the cow in and shut it up as dark as possible. With a milking stool made on purpose, about two feet high, I gently seated myself by her side. If she was there when I was ready to commence milking, she was not there long afterwards. But I followed her to where she was, having closed my lips firmly against the first harsh word. This process was repeated until the cow was tired of running away and concluded to stand and be milked. After which I could milk her in the yard. In the course of the summer I was obliged to be absent a week or more, and the milking was done by another hand. On my return I could not get within reach of my kicking cow, and was obliged to give her another dark-stable lesson, and in the course of a few weeks I could again sit down and milk her in the yard as I did other cows. Therefore, though I believe that most kicking cows can be milked without being tied, I wish to add as a postscript—it is difficult! T. S. F.

Felchville, Vt., Jan. 3, 1869.

MR. ARMS' DURHAM STOCK.

I have just been looking at some of the finest stock I ever saw, and though I may not be able to describe them with all the minuteness and particularity of an experienced writer, I think a brief notice will be acceptable to that large portion of the readers of the Farmer who are interested in improved stock.

I allude to the Durham or Short-horn stock owned by Henry M. Arms, Esq., of Springfield, Vt. His herd was commenced by the purchase of the entire stock of Durhams kept by Burdett Loomis, of Windsor Locks, Conn., consisting of eleven animals, for which ten thousand dollars were paid. Since the purchase four calves have been dropped, making the present number of thoroughbreds fifteen.

His bull, "4th Lord of Oxford," I regard as a perfect animal. He is three years old, estimated to weigh 2500 pounds and is valued at $3000. He took the sweepstakes at the New England Fair this year at New Haven, also the first premium at the Vermont State Fair at Burlington, at which places so many saw him that I need to say no more in his favor.

His cow, "Victoria," took the sweepstakes as a milker at the New England Fair, and I believe she is well entitled to the honor. Another splendid cow, "Emma," is a good model, and weighs 1600 pounds. "Estelle," out of Emma, is one of the best milkers I ever saw, and "Belle the 5th," is a remarkably good looking cow.

"Pride of Stony Brook," out of Victoria by 6th Duke of Thorndale, is the finest yearling heifer I ever saw.

That I am not alone in my high estimation of this stock, I may say that Mr. Arms took six premiums at the Vermont State Fair, all being first premiums in the respective classes in which his animals were entered. I need say no more.

Springfield, Vt., Nov. 16, 1868. B. D. W.

Remarks.—Having seen Mr. Arms' stock at the State Fair at Burlington, we believe the above notice to be well merited, and we regret that its publication should have been so long delayed. It was written upon a spare page of a business letter addressed to the publishers, was laid aside with other business letters and thus overlooked. Those who write to newspaper offices should always put what is intended for the editors upon a separate sheet from that which is intended for the publishers, and thus avoid such trouble as the above.

AGRICULTURAL PAPERS.—SEASON AND CROPS IN NEW HAMPSHIRE.

The reading of the Farmer during the past two years deepens my conviction of its usefulness to the farmer and stock raiser. It is filled with practical hints and valuable instruction. But on some inquiry among the farmers of this town, I can find only four agricultural papers taken by them, and what is worse an apparent want of any desire for agricultural reading on the part of many. Please find enclosed my third year's subscription.

Winter here set in, with plenty of snow, about the tenth of November, and there has been no thawy weather until yesterday, when it rained moderately. The crops have been good this season with the exception of oats. C.

Shelburn, N. H., Jan. 5, 1869.

A COW THAT GIVES NO MILK.

I have a Short-horn heifer. She calved when two years old, did well, showed herself a superior milker; is a fine animal, of pure blood. I was at considerable expense to expose her to one of the best bulls in the State. Last March she dropped a well-formed heifer calf, apparently well. The cow's bag was much swollen, but yielded not one drop of milk. Various expedients were resorted to, but in vain. Milk of another cow was given to the calf, but the third day it died. The inflammation of the cow's udder yielded to applications, and the swelling at length subsided. But *no milk*. She run in the pasture during the summer, got fat and seems as well as ever. She is now with calf again. Most that I have consulted, say kill her; yet I find no one who has had a similar case. She is too valuable an animal to sacrifice if she can be made available as a breeder and milker.

Please give me the benefit of your experience in this matter. R. B. HUBBARD.

Amherst, Mass., Dec. 3, 1868.

REMARKS.—It is not unusual for a cow to do well one season after having done very poorly the year before; but in this case the cow's bag was much "swollen," and "*inflamed*." The *inflammation* undoubtedly changed the glandular tissues so that no milk was secreted. The udder is sometimes trodden upon or is injured by jumping over a wall, or bars; inflammation takes place, and no milk is secreted in one quarter of it. Such cases are not unusual. The tissues become hardened, or hepatized as we say of the lungs. It is very doubtful whether she will give milk hereafter. Please let us know.

CONSTRUCTION OF CELLAR WALLS.

A young farmer wishes to know how he shall construct a cellar wall so as to turn frost. The thing is easy to be accomplished, at least with us here in cold Canada. It is no wonder that Jack Frost enters the cellars and makes fearful havoc with the potatoes, apples, &c., where cellar walls are laid as some are in Orleans County, Vt., where the writer visited last fall. Before he knew how these walls were constructed he could but admire the beautiful granite underpinning of the houses. But good looks are hardly an equivalent for frozen vegetables, which may certainly be expected under the circumstances. In the first place a rough dry wall was laid from the bottom to the surface; then the frame was raised and blocked up at a desirable height; then commenced the operation of laying the underpinning, slabs of beautiful granite of all lengths up to ten feet, and in many cases longer, being used. The ends and upper edges of these slabs were made straight, so as to conform to the sill and to each other. They were then put into place, and raised even with the sill, by chinking up from the under edge, one end at a time, leaving under the middle of the stone a space sometimes large enough to admit the passage of a cat or a dog, which was also afterwards chincked up. Of course a large amount of banking must be required to keep out frost with such a wall. Now the true way, in laying the foundation for a new house, or relaying the wall of an old one, is to commence at the bottom and lay from eight inches to one foot of the thickness of the wall in mortar, till within one foot of the surface, and then it should be all laid solid, or with a space for dead air according to the fancy of the builder. In either case where a wall is built any considerable distance above the surface, the frost will accumulate on the inner surface of the wall on that part laid above the ground, but this will do no injury unless your roots lay immediately against the wall. In the majority of cases the potato bin may be made in some corner less exposed than others, as there are such in most cellars in our uneven country. The idea of using mortar from the bottom is to keep the small stones in their place and to afford less chance for rats to work.

The writer has often seen walls built as above stated, from four to five feet above the surface without any injurious effects whatever, and will guarantee that if our young farmer will build according to the above suggestions it will save him the trouble of banking every year to save his vegetables from frost. It may be that lime is cheaper with us than it is with you,—being here from 12½ to 20 cents per bushel, in silver; but never mind that; we don't calculate on building every year.

Brome, P. Q., Dec. 23, 1868. J. H. HASTINGS.

QUERIES ABOUT A BULL.

To the Editor of the New England Farmer:—I have read with pleasure what has been published in the FARMER, for the last few years, in reference to the raising of stock, and of the different breeds of cattle. For my part, as a source of profit, I prefer the good native stock, and I always take particular pains to avoid the Herd Book in selecting cows *for my own use*—that is, for raising milk for market. I have found the Herd Book a very useful volume when I have purchased cows to sell to those who believe in high sounding titles and jaw-breaking names. I have sold a good many cattle at satisfactory prices, which have proved excellent milkers, though I believe I never owned a pedigree cow which gave a larger quantity of milk than some of my herd that cannot boast of an illustrious ancestry. Now as there is quite a difference of opinion among the farmers hereabouts in regard the raising of a bull calf of mine for stock purposes, I want your opinion on the matter. The calf is a splendid looking animal, and can boast of an illustrious ancestry and an uncontaminated lineage. Three different Herd Books register his ancestors, who originated in Holland, Scotland and England, and are among the renowned barons, dukes, duchesses and dowagers who have been the pride and boast of our stock raisers for many years. He was got by a Dutch bull (pure blood) out of a heifer, six years old, who was got by an Ayrshire bull (pure blood) out of a Durham cow, ten years old, (pure blood) all of which are registered in the Herd Books; so that he would be one-half Dutch, one-quarter Ayrshire, and one-quarter Durham. The question to be decided is,—whether the butcher shall have him, or whether he had better be raised for stock purposes? Our club of six is equally divided, and you are called in, as umpire, to decide whether he goes to the slaughter house or the stock pen.

Marion, Mass., Jan., 1869. ABRAHAM ROGERS.

REMARKS.—Send him to the—butcher! When you come to the conclusion to improve your stock do *just as you please*. Our suggestion would be, however, to take pure blood on both sides. If unlike each other, then you would have what are called "half bloods," but if sire and dam are of the same breed, you would have full bloods, and in either case would know about what you have before you. Glad you are not all of the same opinion in Marion; that shows that you have inquiring minds and are on the road of progress. Thank you for the compliment in making us an "umpire."

LEACHED ASHES AND HORSE MANURE AROUND TREES.

Having noticed two or three articles in the FARMER giving an account of apple trees being injured by ashes, I feel somewhat uneasy as to the effect of what I have done for mine, and I will ask if you think there is danger of my trees being injured. My trees have been transplanted three years last spring. In the fall I scraped away some of the dirt, and put four shovelfuls of leached ashes and perhaps a bushel of horse manure to a tree, and covered the whole with earth. G. H.

Bristol County, Mass., 1869.

REMARKS.—You will find no harm done to your apple trees by the application you have spoken of above. Where a considerable quantity of unleached ashes is applied directly to the trunk, the first soaking rain carries a strong ley against the bark or on to the roots, and is quite likely to do damage. It is better to use all caustic manure in moderate quantity and more frequently.

FOX TRAPPING.

In your issue of Nov. 14, there are some statements in regard to the trapping of H. H. Day, of Chesterfield, N. H., which need correction, as they do him but partial justice.

Mr. Day had in his traps during the winter of 1866 and 1867, twenty-six foxes; in 1867 and 1868, twenty-five; and, so far this season, he has had twenty. He has caught, in the last twenty years, more than four hundred foxes, all in the common steel-trap and within a few minutes walk of the village in which he resides. The winter before the last he took twenty foxes in two traps, nine in one, eleven in the other, without moving the traps.

He has done such a thing as to set two traps within ten rods of each other, and have a fox in each at the same time. It is not an uncommon thing for him to have a fox break off and leave its foot in the trap and then come back and be caught a second time in the same trap before the limb had healed.

Mr. Day can take a fox just as surely and with as little trouble as most persons experience in taking the striped squirrel or polecat. This skill in fox trapping, Mr. Day has acquired by a thorough and careful study of the habits of this most crafty of animals.

And those who wish to trap, either for profit or to rid themselves of this pest of the hen-roost and sheep-fold, will do well to apply to Mr. Day for instructions as to the way and manner of catching a fox, rather than pay their money for the thousand and one nostrums put up by druggists and others, who never did and never can catch a fox themselves. M.

REMARKS.—Within a year or two past we have published statements from poultry raisers of losses by the depredations of foxes and other wild animals, which it has been alleged have increased in consequence of the decrease of dogs; and only a few weeks since we had an account of the destruction of eighty turkeys in a single day by one fox, on three adjoining farms in one town in New Hampshire. For the benefit of our poultry raising friends we are willing to publish the foregoing statement, by a gentleman who is personally acquainted with Mr. Day.

THE SEASON, PRICES, STOCK, PORK AND POTATOES IN MICHIGAN.

We comenced to fodder here on the first of December. We have had one week of sleighing on five inches of snow. The snow left us on the 23d, and the wheeling is now good. Corn 30 cents per bushel in the ear; hay $12 and plenty, and the stock is looking finely. I have a few full blood Short-horns from Mr. Warwick's herd of Kentucky.

Farmers are realizing a handsome income from their pork harvest. I am informed that the shipments from this station, on the Northern Indiana and Southern Michigan railroad, amounted to 186,000 pounds for one day this week, loading ten large cars. As many as 500 to 600 dress hogs are brought in by farmers on some days. Prices for heavy hogs have ranged from $9.50 to 11.50 per 100 pounds.

Having removed here from Vermont only two years ago, I have not outgrown my interest in Eastern affairs. I see that some of my good friends in the Green Mountain State, who have had the fine wool fever pretty bad, are now having the potato fever rather severely. I am afraid it will go hard with some of them, as a relapse or a second fever is considered dangerous, I believe, in ordinary practice. We have no potato fever here in Michigan, but I have a variety that, according to our best chronometers, is full fifteen seconds earlier than the Early Goodrich or Early Rose. It is known in my neighborhood as the "Early Shaw." I may send a peck next spring to the editor of the FARMER, to enable him to come out ahead of the Vermonters, but I have not a single eye to sell.

Hudson, Mich., *Dec.* 25, 1868. D. M. BRIGGS.

SORE TEATS IN COWS—EARLY ROSE POTATO—THE SEASON IN CHITTENDEN CO., VT.

I would recommend to any one troubled with their cows having sore teats, to take of mutton tallow three parts and Burgundy pitch one part; wash clean and apply moderately warm, twice each day, until a cure is effected.

How about the Early Rose? Has any one had the "moral courage" to bake, boil, roast or fry one —only *one*—so that he can tell us of the quality? If so, let him speak over his or her own signature and thereby win—I was about to say—immortal honor.

Winter in this region has not been severe, but steady, as we have had no rains or warm days so as to thaw the snow to affect the sleighing, which has been good for about a month. E. J. BUTTOLPH.

Essex, Vt., *Jan.* 5, 1869.

A WINDY COLT.

Can you tell me anything to give a colt that is continually troubled with wind, passing it almost without cessation? G. A. D.

Windsor, Vt., *Dec.* 1, 1868.

REMARKS.—First ascertain the cause of the wind, if possible, by changing his food, and in the meantime give him some mild tonic, as a table spoonful of ground ginger in moist meal. The advice of a physician is worth getting for the relief of a good colt.

HOW I MAKE MANURE.

I have a cellar under my barn made as tight as stones and mortar can make it. No cold winds can find a crack through which to enter in the winter season. Manure never freezes at all in it. In the summer, doors and windows are thrown open and free circulation given. The barn above is made tight with the exception of a ventilator, and in consequence of having a warm cellar under it, is itself warm. Manure very seldom freezes behind the cattle. The linter is constructed with a trench behind the cattle for the droppings, and in rear of this is a raised walk. In the linter the cattle are kept nearly all the time in cold weather, and every night during the summer. As soon as the snow disappears in the spring, muck is wheeled into the barn every morning, and deposited in the trench. Enough is used to absorb all the liquid, and take up the juices of the solid droppings, so that there shall be no leaching from the heap below. Care is taken that the muck be considerably dried, so that it will absorb large quantities of the liquid. The next morning the trench is cleaned out, care being used in the process to have it well mixed with the solid excrements, and a new supply of muck wheeled in. In the cellar it is left as light as possible. No cattle, hogs or anything else are allowed to step upon it. A mild fermentation takes place and decomposition rapidly commences. If the muck is well dried and a sufficient quantity is used, there will be no leaching from the heap; and being under cover it is not washed by the rain nor excessively dried by the sun. The fermentation is not great enough to throw off the ammonia. There is no waste, no loss, all is there and is held by the absorbent powers of the muck for the use of the plant.

In the winter no muck is used with the cattle droppings. The horse manure from the stable passes through a scuttle to the cellar beneath, and is there thrown over and mixed with an equal quantity of muck and left light to decompose. This process is carried on all through the winter, or all the time the horses are stabled. A large quantity of excellent manure is derived from this source.

The swine are kept in the cellar in pens with tight plank floors. Into these pens are thrown large quantities of muck, turf, loam, leaves, brakes, straw, &c., for the hogs to work over. Muck is preferred to anything else, when a sufficient quantity is at hand which can be spared for that purpose. After it has been well worked over by the hogs, and thoroughly mixed with their droppings, it is thrown out, forked over and left light in a heap to decompose. This operation is carried on in winter as well as summer. The ingredients for winter use are carted into the cellar in the fall, and thrown into the pens in small quantities at a time when needed.

My sheep are kept in sheds adjoining the barn. In June the manure is taken into the cellar, thoroughly pulverized, and mixed with an equal bulk of muck, when it is left to foment and decompose. Great care is necessary to see that the heat does not become too great and cause it to "burn." Water is thrown upon the heap when the heat becomes too great.

The soap suds and waste water from the house are made to contribute their store of riches to a heap of pulverized muck. The privy also is supplied with the same material. These two last make an excellent compost for the corn hill; and a large amount can thus be secured if proper attention is given to it. The muck used is thrown from its bed in summer and hauled during the leisure of winter.

That my way of making manure is the best, I do not claim. That it is a good method, I most heartily believe. That my practice is susceptible of improvement, I do not question. If it should receive criticism, I will not quarrel with the critic. That I make large quantities, the generous piles give evidence. That it is a good manure, the crops will testify.—*Z. A. Gilbert, in Maine Farmer.*

For the New England Farmer.

RECIPROCITY TREATY.

Among neighbors it is a point of honor never to interfere with another man's trade. We all have something to sell,—some manufacture, some produce, or our own labor. When we seek a market for our commodity we feel chagrined to find ourselves forestalled, the market supplied, and perhaps overstocked with articles from some unexpected source.

This has been the feeling among farmers along the Canadian frontier, when they have raised a variety of produce to sell to pay taxes, or to buy manufactured articles that have paid a government license, and are therefore high, and find the market dull and prices low for the articles they wish to sell. They feel that while other things are high, their produce ought to bring a good price also, but they see drove after drove of Canadian horses, cattle and sheep, with car-load after car-load of butter, oats, wheat and flour, all paid for in specie, and serving to depress American markets.

Although these importations and their effects bear more immediately upon the people near the frontier, yet the injury is a national one. The cities are the markets for the whole country, and the inhabitants thereof should be fed by the country to which they belong as far as the products will supply their wants. Still the buyers are not to blame for acting upon the principle of buying where they can buy the cheapest and selling where they can sell the dearest; and consumers, whether of foreign brandy and wines, or of mutton and beef naturally desire to pay as small duties as possible on things imported.

The Canadian Provinces are devoted almost entirely to agriculture. The climate and soil is well adapted to raising grain and all animals. Their grain is as good as that raised in the States; their horses are notoriously hardy and smart; their mutton and beef is of prime quality, and their wool, known as the the Canada combing, brings the highest price in market. Now these things pay twenty per cent. duty in gold, fully equal at times to thirty per cent. in greenbacks, besides some extra freight. Now if this produce, by a reciprocity treaty, should come in free, the tendency would be to lower our prices thirty per cent. if the supply was great, or equal to half that, in any case. The supply is almost unlimited. This fall there was a drove of French cattle driven back and forth on the other side the line, and fifty of them were offered at seven dollars per head, rather than pay the duties across. None of these were calves, but young cattle, cows and oxen. Droves have been continually coming from Canada into the States, during the season. I consider the protection now given to farmers none too much; and that all the benefit of a reciprocity treaty would be to the manufacturer, for certainly Canadians do not wish to purchase our agricultural productions, and England can supply them with manufactured goods cheaper than they are generally produced in the States.

On no account re-enact the reciprocity treaty. The Canadian people seem to have no good will for, or sympathy with, the republicanism of our government. Indeed the evidences of a strong enmity have been manifested in years past, and need not be dwelt upon. Their farmers desire the advantages of the American market for their produce. Shall they have it on the same terms as those who pay the National debt? Z. E. J.

Irasburg, Vt., Dec. 28, 1868.

For the New England Farmer.

EUROPEAN BASKET WILLOW.

Having seen an article in the NEW ENGLAND FARMER of Dec. 21, in which remarks are made on the cultivation of what is there called "basket willow," by Mr. E. Hersey of Hingham, and as he has "no time to answer questions, except through the FARMER," I would, by your permission, use a small space in making the following inquiries:

What is the variety of willow referred to called by European growers and merchants and manufacturers of willow ware?

How long has he had experience in growing willow, and how many tons of willow has he grown, harvested and sold, or used in manufacture?

In concluding, how much can be realized per pound or per acre as profit? On how many years' growth on the same land has he made his calculation? and what did he allow for interest on land, manure, planting, weeding, cutting, pitting, peeling, drying, tying up in bundles, effecting sales, and last, but of most consequence, the clearing of the land and having it fit for other crops after the willow is no longer profitable?

We have had one "willow fever," but few who have been affected by it wish for a second attack; it may be, however, that we have not had the instruction we need, and as no wise farmer would plant land to a new crop that will carry fifty bushels of corn to the acre, unless he has reasonable ground to expect a corresponding amount of profit, many readers of Mr. Hersey's article will be grateful to him, if, by answering the above inquiries, he can assure them of success in the *cultivation*, *harvesting* and *sale* of said willow.

If for any reason Mr. H. does not see fit to answer the above inquiries in detail, it is hoped that he will make some reply to them, as we farmers now have time to compare experiences and prepare to improve our circumstances by planting the coming season such crops as may prove more profitable than corn.

I would also inquire if Mr. H. has cultivated more than one variety of European willow, and if so, will he say by what name it is known?

Dec. 28, 1868. SALIX.

FARM SLEDS.

CONSTRUCTION.—As to the length of a sled, no exact number of feet and inches can be given that would suit the masses of farmers, for those used for different purposes are made of different lengths. There is, however, one prevailing fault, and that is, not making them as long as they should be. Every farmer has, no doubt, noticed that when drawing logs, or "sled-length wood" the greater portion of the load comes upon the hindmost beam. Logs for the saw mill, twelve or fourteen feet long, have to be loaded so far forward that damage is very likely to result; the pressure of the log coming so heavy upon the pole that it is broken when turning around, or the sled chances to drop into a hollow.

The sled should be made the same width between the stakes, as that of the wagon kept, so one box may be used upon both. Use deep beams; it is but little more work to load a log upon a sled twenty inches high, than one fifteen, and the high sled will be found much more convenient when passing around in the woods.

The pole should be nine feet long from the doubletree to the end, and the doubletree set as far back as it can be, and not be liable to hit the end of the runner when in use. The closer a team is got to a load the better, providing they have free use of their limbs. A good rule is to set the doubletree eight inches front of a line from the front of one runner to another. The cheapest and best pole is made by framing it into the centre of the roller, and bracing with seven-eighth round rod. Square iron should never be used for braces in this place, for if anything should occur to bring the horses upon them, serious damages might result.

For a heavy sled, the raves should be made of hard wood planks, one and one-half inch thick, and ten inches wide, allowing the outer edge of the plank or raves to come even with the ends of the beams, and bore the stake holes down through all. There are several advantages in putting on raves in this way; the beam ends are preserved from splitting out, as they are almost always found on sleds constructed in the ordinary way. By the raves running on a line with the ends of the beams, all liability is overcome of getting "stalled" in the woods by the sled sliding around when heavily loaded, and the beam-end catching upon a tree.

Another important thing in the construction of these useful farm vehicles, is, putting the roller into the runners at the proper point. If the roller is set too high, the draft is downward, if too low, the sled is lifted. In either case the draft is not direct from the seat of the load, and much more power is required to move a load than is absolutely necessary. Set the roller on a line with the upper side of the beams.

Oak, beach and white ash make the best runners. Hickory splits too easily, unless very tough. Red elm is best for beams, and tough white oak for pins. Sugar, or hard maple, makes excellent shoes, but the timber should be seasoned before used. Hickory makes the best roller.

When a farmer has purchased of a mechanic a nice iron shod sled, he gives it the same care that he does his wagons and carriages; they are housed and painted. But the plain, home-made sled, that we have been talking about, is apt to be neglected. There is just as much economy in painting a common wood-shod sled, as an other, and the durability is just as much increased.

Common yellow ochre, wet up with raw oil, makes a good coating for sleds; but if any one is opposed to the color, the shade may be varied by the use of venitian red. Add to each pint of the paint one gill of japan to make it set and dry good. If the sled is not painted entire, a good coat should be applied to the pins before driving them into the runner. It is at this point that they first give out, water is taken in at the joint and decay follows.—*Ohio Farmer.*

CARE OF STOCK IN WINTER.

Though not quite orthodox I am aware, I would like to inquire if it is not possible that we keep our stock too much confined in the stable in winter. Go into your stable some morning when the thermometer is about zero, say about sunrise or immediately after, and, unless your barn is warmer than most are in our vicinity, you will notice the cattle showing evident symptoms of being well chilled. Now just turn them into the yard, and, if the sun shines, see how soon they will find the sunny side of the yard, and will begin to stretch themselves and show increased comfort.

A neighboring farmer who always has sleek cattle, pursues this course. He feeds his stock their meal or roots early in the morning, without any hay, and turns them out about sunrise, and feeds hay either in the yard or at the adjoining stack—putting them back in their stalls as early as 4 P. M., stormy or extreme cold weather excepted, when they are kept housed most of the time. How is it with mankind? When do we enjoy the best health or appetite, when confined in-doors in an atmosphere artificially warmed with little or no exercise, or when out of doors, with a moderate amount of exercise, snuffing the keen, bracing north wind? I think, if I wished to fatten a bullock in the shortest possible time, I would pursue this course.

We well know that cattle will often eat in the yard what they will refuse in the stall—refuse hay or straw. What say you, brother farmers?—*W. J. Pettee, in Co. Gent.*

HISTORY OF THE LUNG PLAGUE,

OR PLEURO-PNEUMONIA.

The "Monthly Report of the Department of Agriculture for November and December" contains a somewhat lengthy report on the symptoms, character, &c., of this disease by Prof. Gamgee, addressed to Commissioner Capron. We copy his remarks on the history of the disease, omitting the particulars of its treatment in Massachusetts, as most of our readers are probably familiar with what was done here.

The contagious pleuro-pneumonia of cattle is a disease doubtless of the greatest antiquity. All reliable records point to the simple truth that has to be told of many contagious disorders, that it has travelled from the east westward. Older writers confound it with rinderpest, and a host of other maladies. It was only towards the end of the last century that the universal prevalence of the lung plague, wherever cattle were being driven to provide the many armies then stirring, led to its distinct and satisfactory description. Early in the present century it ravaged France, Belgium, Hanover, and Holland. England, isolated by the ocean, and the extreme north of Europe, alone remained free.

With peace came the development of new industries, and the most important in relation to the history of pleuro-pneumonia was the establishment in Germany, Belgium, and Holland of distilleries, starch and sugar manufactories, &c., the refuse of which it was found profitable to feed to stock. This led to great activity and important modifications in the cattle trade, all favorable to intercourse between different countries and the dissemination of contagious disease.

Holland had long imported fat and milch stock from the Rhine provinces and other countries to the East. The malady was for six years in Belgium before it entered Holland. In 1835 it was transmitted from Guelderland to Utrecht. It reached South Holland immediately afterwards, and prevailed especially near the great cattle markets of Rotterdam and Scheidam. It then appeared whenever and wherever infected cattle were introduced into South Holland, the island of Zeeland, Drenthe, Groningen, and Overyssel.

By this time—1840–'41 and 1842—circumstances favored an agitation for the repeal of restrictions on free trade in cattle with England. The barriers to contagious disease fixed by our forefathers after the appearance of rinderpest in England were at last removed by Sir Robert Peel, and this caused the cattle traffic to grow apace from Central Europe through Holland to England. The great cattle-feeding province of the Netherland, Friesland, was alone infected with the lung disease when its people eagerly sought to supply British wants, and from that day to this has been constantly the seat of the malady.

Dutch stock first introduced the lung plague into the south of Ireland. It appeared in 1842, in London. In 1843 English cattle communicated the disease to Scotland, and ever since, with the exception of a period of cattle trade restrictions enforced for the prevention of the Russian murrain, has been the most widespread, as it has been, taking the entire period of its ravages into consideration, the most destructive of all maladies attacking British cattle.

From Holland the disease travelled to the Cape of Good Hope, and from England at various periods it was communicated to Sweden, Oldenburgh, the Australian colonies, and other parts of the world.

History of the Lung Plague in America.

The first notice of the lung plague in the United States dates back to 1843, when a German cow, imported direct from Europe, and taken from shipboard into a Boooklyn cattle shed, communicated the disease, which, it is said and believed, has prevailed more or less in Kings county, Long Island, ever since.

In 1847 Mr. Thomas Richardson, of New Jersey, imported some English stock. Signs of disease were noticed soon, and the whole of Mr. Richardson's stock, valued at $10,000, were slaughtered by him to prevent an extension of the plague.

In 1850 a fresh supply of the lung-plague poison reached Brooklyn from England in the system of an imported cow.

Mr. W. W. Chenery, of Belmont, Massachusetts, has related the history of the introduction of lung plague from Holland into Massachusetts in 1859. Four cows were purchased for him at Purmerend and Beemster, shipped at Rotterdam early in April on board the barque J. C. Humphreys, which arrived in America on the 23d of May, 1859. Two of the cows were driven to Belmont; the other two had to be transported on wagons. owing to their "extremely bad condition," one of them "not having been on her feet during the twenty days preceding her arrival." On the 31st of May, it being deemed impossible that this cow could recover, she was slaughtered, and on the 2d of June following the second cow died. The third cow sickened on the 20th of June, and died in ten days. The fourth continued in a thriving condition. A Dutch cow, imported in 1852, was the next one observed ill, early in the month of August following, and she succumbed on the 20th. "Several other animals were taken sick in rapid succession, and then it was that the idea was first advanced that the disease was identical with that known in Europe as epizootic pleuro-pneumonia." Mr. Chenery the n did all in his power to prevent the spread of disease from his farm. The last case at the Highland farm, Belmont, occurred on the 8th of January, 1860.

In June, 1859, Curtis Stoddard, of North Brookfield, bought three young cattle, one bull and two heifers, from Mr. Chenery. One calf showed signs of sickness on the way home. Leonard Stoddard, father of Curtis, thinking he could better treat this sick calf, took it to his own barn, where he had forty-eight head, exclusive of calves, and with which the calf mingled. One animal after another was attacked, till the 12th of April, when thirteen head had died, and most of the remainder were sick. The disease continued to spread from farm to farm as rapidly as circumstances favored the admixture of stock. The period of incubation in well defined cases varied from nineteen to thirty-six days, and averaged twenty-six and two-thirds days.

The people of Massachusetts, a little slow at first, overcame the delays incident to legislation, and established a commission for the purpose of exterminating the disease. * * *

From numerous inquiries there is not the slightest doubt in my mind that the lung disease continued, ever since its first introduction, to attack some of the numerous dairies on Long Island. One of the best informed dairymen in Brooklyn informed me that, three months after starting in business, sixteen years ago, he lost eleven out of twelve cows he had purchased in Newark, New Jersey. He bought more and began to inoculate with excellent results. Other people were losing, and he established himself on Jamaica Pond to be clear of every one. When he stopped inoculating the disease reappeared. Mr. Benjamin Babbit, of Lafayette avenue, was the first to inoculate after the introduction of this practice in Europe, and many dairymen adopted it.

The board of health opposed the practice, as many of the cows lost portions of the tail, and reports were made of blood and matter finding their way into the milk-pail. The disease has never ceased, and I have visited many dairies, in all of which at one time or another and in most of which during the present year, the disease has prevailed. In five dairies I examined, within 100 yards of each other, I found one or two sick cows in each. The Hartford Insurance Company, which has recently suspended operations, lost heavily on the insurance of cows from the prevalence of this disease, and that company objected also to the practice of inoculation.

From Mr. Bedell's statement, there is no doubt of the existence of the contagious pleuro-pneumonia in New Jersey when he first bought his cattle. Mr. Robert Jennings, veterinary surgeon, had his attention drawn to the disease on its appearance in Camden and Gloucester counties, New Jersey, in the year 1859. In 1860 it crossed the Delaware river into Philadelphia, spreading very rapidly in all directions, particularly in the southern section of the country known as "The Neck"—many of the dairymen losing from one-third to one-half of their herds. The sale of sick cattle continued, as it always does, unless prevented by rigid laws. In 1861 the malady appeared in Delaware, and in Burlington county, New Jersey, and the disease could be distinctly traced to the Philadelphia market.

The records of outbreaks are by no means satisfactory, but a gentleman well known in Maryland, Mr. Martin Goldsborough, informs me that the malady has been very destructive on many farms of that State for the past three years. Individuals have lost their entire herds, in some cases numbering 24, 30, and as high as 47 head. Last year an effort was made to direct the attention of the legislature in Maryland with a view to the adoption of successful measures, but without effect. Mr. Goldsborough's statement is to the effect that the disease in Maryland is due to the purchase of cattle in the Philadelphia market.

There is no doubt of the great prevalence of the malady for some years in Philadelphia. I have seen it on two farms in Delaware county, and it has been on several others recently. Bucks county has suffered much for two years. A correspondent informs me that in March, 1867, a drove of cows was taken into that county, and one of them was observed sick. These animals were distributed among the farmers and soon the plague appeared in all directions. An effort was made then to secure the aid of the State legislature, without effect, and to this day the disease is in Bucks county. The last case I have to report is at Newtown, Bucks county, where the disease was introduced by cows bought in the Philadelphia market.

I can corroborate the statements made as to the sale of cattle that are infected. Not only has this occurred often where the disease has been most rife for years past, as on Long Island, but recently, in making inquiries in Delaware county, Pennsylvania, I learned of three cows which had been sold "healthy" (?) out of an infected herd. Such a practice explains the progress of the disease further south than Maryland.

I recently visited the dairies of Kendall's Green and Georgetown, near Washington, and found that last year the cattle had been nearly entirely exterminated by the disease—so much so that to the present day the poor people who keep only one or two cows are afraid to buy and in constant fear lest the malady should return.

Three years since the lung plague appeared in Alexandria county, Virginia. It has been steadily on the increase ever since, and continues to the present day.

I have been informed that the malady has travelled as far west as Kentucky and Ohio, but of this I have not been enabled in the brief time since I commenced the inquiry to obtain satisfactory evidence. I have taken some pains to ascertain if the disease had reappeared in Massachusetts, and personal inquiries in various parts of the State show that it is quite free from the disease,—thanks to the energy of its people and the enlightened action of its legislature.

Of all the cattle diseases pleuro-pneumonia is in the long run the most destructive, because the most insidnous and the least likely to rouse people to united action for its effectual suppression. To ignore its presence is, however, to insure that the cattle mortality of America, like that of England, will be at least doubled in a few years' time. Rational means, energetic action, and earnest co-operation between the different States and the central government may, with a moderate expenditure now, save many millions annually in the not distant future.

PHOSPHATIC DEPOSITS.

We have forborne any notice of the remarkable discovery of phosphatic deposits in the neighborhood of Charleston, South Carolina, lest we might help to give currency to what seemed very exaggerated estimates of their value, and forward the aims of speculators. There is no longer, however, reason to doubt that the truth has hardly yet been told of them, and of the great wealth which underlies thousands and thousands of acres along the Ashley river. They are known to contain millions of tons of fossilized bones, the tusks of elephants, mammoths, hippotami, the teeth of sharks, and a multitudinous variety of irregularly shaped phosphatic nodules of animal origin, underlying the surface soil, and averaging in many places a foot in thickness. After removing the surface soil, quantities of brown phosphatic nodules worn into water holes and bearing the imprint of marine shells are first reached. Beneath this deposit is a stratum of stiff blue clay eighteen inches thick, and below this again another layer of the same thickness of bones and nodules—many of the bones being of enormous size and indicating a period of the world when the Icthyosaurus, the Plesiosaurus and Megatherium lived and flourished and the sea covered many fathoms deep what has since become, either by gradual upheaval or by some sudden cataclysm, dry land. Below the last-mentioned stratum lies a bed of white marl unusually rich in phosphoric acid and which, therefore, also constitutes an excellent fertilizer, although less valuable than the superincumbent deposits of phosphates. Practical experience has demonstrated the fact that the phosphatic deposits of South Carolina are of unusual commercial importance.—*American Farmer, Baltimore.*

STALL-KICKING HORSES.

No worse habit can be formed by a horse in the stable than that of stall-kicking, and as soon as one is detected in the act, some means should be used to prevent its continuation.

The kicking is usually done with one foot at a time, and from different causes; sometimes fright, at others viciousness or disease; usually the latter. When a horse has stood for a considerable length of time in the stable, or has been driven in the mud, the legs of the animal become fevered, and the skin irritated, unless the groom is very particular in his work. When the legs are thus affected a smarting sensation is created every time the horse urinates by the water spattering on to his legs, and so acute is the pain that he bounds around the stable pawing and kicking as if standing in fire.

A few years ago we kept a horse which, although spirited, was one of the kindest and most obedient animals that we ever drew rein over. This horse would never relieve himself in the stable so long as it was possible for him to contain, if not well bedded, and we have had the weather-boarding entirely knocked off from the barn, next to the stable, when we have neglected to litter the floor well beneath him. If a plenty of bedding was supplied, he always stood perfectly quiet. When a horse kicks in the stable from the cause just mentioned, the best remedy is to bed well, clean the legs thoroughly every day, and apply to them some soft grease or healing ointment. The legs may be badly affected by some skin disorder, and go unnoticed for weeks, unless a close examination is made.

We have no doubt but that some horses acquire the habit of stall kicking, from being compelled to stand upon badly constructed stable floors. When forced to stand upon an acclivity, even if very gradual, such stress is brought upon the muscles of the hind legs that they become painful, and for relief the horse kicks first with one foot and then another. Before a man chastises his animal for bad habits, he should detect the cause of the misdemeanor, and ten chances to one if he don't find himself more in fault than the horse.

When it is positively known that the kicking is done from maliciousness—which is very seldom the case—confine the horse in a stall just wide enough to admit of his lying down and getting up, and plank up the sides of the stall so that his heels cannot force the wall away. In such a place the habit will soon be given up, as the animal will notice that nothing is accomplished by its efforts.

A writer in one of the British journals is of the opinion that stable-kicking is sometimes caused from itching. If this is true, it is, of course, particularly the case whilst the dietary is dry and stimulating, as is apt to be the case with hard worked and grain-fed horses in the winter.

If such itching is suspected, give the animal a small dose of aloes, allow an ounce of nitre every week or ten days in a mash, supply daily a few roots or some bran, and in cold frosty weather avoid wetting the horse's limbs, which can be kept perfectly clean with the use of the wisp and dandy brush.—*Ohio Farmer.*

RAISING CALVES.

At a late meeting of the Franklin, Mass., Farmers' Club, the President, Phineas Stedman, Esq., after advising farmers and dairymen to raise their own calves, gave the following as his method:—

The calves may be most economically fed by taking them from the cow during the first week. Having learned to drink new milk readily, skimmed milk, warmed to the temperature of new milk may be substituted gradually until, at three weeks old, the new milk may be withheld entirely. Oil meal and wheat bran should now be given, commencing with a table spoonful once a day. This should be scalded and allowed to stand a short time to swell. After a few days, the provender may be given at each meal, and the quantity increased at discretion. It is of the utmost importance that calves, and indeed all young stock be kept in a thrifty, growing condition. It is much easier and cheaper to keep a young animal growing, than to bring it again into a flourishing condition after it has, by want of care or proper food, been allowed to stop growing. I prefer to rear calves which are dropped in autumn or early winter. At this season they are likely to receive better care, are better prepared to bear the cold of the succeeding winter, and until they arrive at maturity, hold an advance of several months, in age and size, over those which are dropped the following spring, while always classed of the same age.

OLD FRIENDS.

A few days since, an express man brought us a bundle which proved, on examination, to contain Vols. I and II of the NEW ENGLAND FARMER, published by Thos. W. Shepard, Rogers' Building, Congress St., Boston, and covering the period from Aug. 3, 1822, to July 24, 1824. These complete our file, from which, for several years, those volumes have been missing. The friend to whom we are indebted for this favor, in a brief note accompanying the gift, says:—

> "I send you the first two volumes of the NEW ENGLAND FARMER because your claim to them is better than mine. But I shall esteem it a favor, if you shall supply yourself with like numbers from another source, for you to return the sacred volumes to one whose claim to them is second only to your own."

We wonder not that our friend places so high a value upon these relics of the past. Their pages tell many a strange story of the times fifty years ago, when agriculture was almost in its infancy in this country. The "patent plough" figuring in the advertisement of the "Agricultural Establishment, No. 20 Merchants Row," for instance, would make a curious figure beside one of the highly finished, beautifully shaped implements of to-day. Other implements and tools mentioned in the same advertisement have years since disappeared before the march of improvement in their field.

Another instructive fact is the difference in the prices of farm produce then and to-day. A concise table gives the rates of leading articles in this market, from which we quote a few items:

Beans, ⅌ bu.	90 @ 1 00
Beef, best, ⅌ ℔	8 @ . 10
Butter, first quality, ⅌ ℔	11 @ . 12
" second do., ⅌ ℔	9 @ . 10
" lump, retail, ⅌ ℔	18 @ . 20
Cheese, new milk, ⅌ ℔	7 @ . 8
Flour, Genesee, ⅌ bbl.	7 75 @ 7 87
Eggs, ⅌ doz.	14 @ . 15
Pork, fresh, ⅌ ℔	7 @ . 8
Lamb, ⅌ quarter	30 @ . 45
Potatoes, ⅌ bush.	45 @ . 47
Poultry, ⅌ ℔	10 @ . 14
Wool, Merino, ⅌ ℔, washed	55 @ . 60
" native, ⅌ ℔, washed	37 @ . 40
Hay, ⅌ ton	18 00 @22 00

It will be seen that, with very few exceptions, the prices of farmers' produce were much less than at the present time, while the custom of trade was such that the farmer was obliged to take most of his pay in "store pay," or barter. The FARMER was then published on a sheet less than one-third its present size, and its price was $3.00 a year, or $2.50, "if paid within sixty days." Taking butter as a standard, the farmer of those days who felt interest enough in his calling to support a paper devoted to its improvement, sent 20 pounds of his prime butter for his year's subscription. To-day, from 5 to 6 pounds is all that is required, and there are plenty of customers ready to take it at his own door, and pay him in cash, too, so that the printer is not obliged to play the part of "middle man."

We are under obligation for this most acceptable donation of our friend, whose name we withhold simply because we think such reserve more in accordance with his wishes. If any of our readers has in his possession the volumes of the FARMER, first series, for the above period, which he will dispose of, we would like to hear from him.

AMERICAN DAIRYMEN'S ASSOCIATION.

The fourth annual meeting of this society was held at Utica, N. Y., Jan. 13 and 14. From a report in the *Herald*, of that city, we learn that the attendance throughout the session was very full and the dairymen generally express themselves as highly pleased with the success of the convention, which has been more marked than at any previous one.

Many topics of interest to dairymen were discussed, to some of which we may allude more fully hereafter.

Resolutions were adopted requesting the Government to include cheese in the army and navy rations; requesting Congress to furnish such aid to the Department of Agriculture as may secure the regular publication of information regarding diseases of animals, and the adoption of means for the prevention of such diseases; changing the constitution so that all the States might be represented; referring the question of abortion in cows to the trustees of the Cornell University, and requesting them to institute a careful and thorough investigation of the malady,—its probable cause—its prevention or cure. Also, that the trustees of the said University furnish to the Association full information respecting the chemical properties of milk and of rennet.

The annual address was delivered by Prof. Gamgee, of the Veterinary College, London, on the evening of Wednesday, to an audience that filled the largest hall in the city. The subject of his lecture was "The Diseases of Cattle and the influence of those Diseases on Milk." We have not space for any abstract of this address, which is given in full in the *Herald*.

Some idea of Prof. Gamgee's knowledge of his subject, and of his ability as a writer, may be formed from the extract we publish in another column from his report to the Agricultural Department.

Officers for the year were elected, as follows:—

President—Horatio Seymour, of Oneida.

Vice-Presidents—T. G. Alvord, of Onondaga; L. L. Wight, of Oneida; S. T. Miller, of Lewis; A Barnham, of Chautauqua; John W. Bush, of Chemung; B. G. Moss, of Green; C. E. Chadwick, Canada West; N. Dwight, Mass.; W. G. King, Illinois; A. Bartlett, Ohio; R. C. Wickham, Vermont; T. S. Gold, Connecticut; E. H. Wilder, Wisconsin; S. Howard, Michigan; N. W. Woodbine, North Carolina; J. Stanton Gould, Poughkeepsie; M. J. Harden, Kentucky.

Secretary and Treasurer—Gardner B. Weeks, of Syracuse, N. Y.

WOOL AT THE CUSTOM HOUSES.

The attention of Dr. Randall, as President of the National Wool Growers' Association and by virtue of his office as representative of the interests of the wool growers of the country, has been called to the fact that invoices of foreign wool finer and different in other particulars than the carpet wools described in the tariff act as admissible in the third class, at three and six cents duty, have been offered at the Custom Houses. We learn by an article in the last *Rural New Yorker*, that this information was communicated to Mr. Randall at the same time, and as soon as such wool was offered, by the respective appraisers in Boston and New York, and without any concert of action between these gentlemen. Both of these appraisers believed that the wool alluded to should fall in class one, under the clause in the law which includes in that class "all wools not described or designated in the other classes."

Dr. Randall says, "these 'very fine carpet wools,' as those who handle them would fain term them, are severally applicable to the manufacture of the lower grades of cloth, cassimeres, satinets, &c., and perhaps some of them can be used as combing wools. They are sometimes mixed in the same bales with true carpet wools. To an unskilled observer they might appear to be the same. A custom house officer, inexpert in his duty, or ready to commit a fraud, might pass them for the same. No important amount of this wool has yet been imported, but rumors have reached us that more of it is to arrive. It is said that a large Boston house has a partner or agent looking after such wools in Europe, in the full expectation that they will pass the Boston Custom House, at three and six cents duties, as carpet wools." We must again repeat the question, Is this a good time for wool growers' associations to go to sleep?

SMUT ON CORN.

The newspapers have reported the death of cattle in different parts of the country, supposed to have been caused by eating the smut which is said to be unusually abundant on corn this year. Many Western farmers, however, do not believe that these deaths were caused by the smut. A correspondent of the *Prairie Farmer* suggests that over eating of dry stalks without sufficient water to moisten them is the true cause. Of a drove of cattle which were turned into a field of fifteen acres after harvesting, twenty years ago, in which there was no water, and in a very dry time, eleven died in two or three days. On examination, the mainfold in every case was full and tight with dry corn fodder. The cattle, being let into a new kind of perfectly dry food, had gorged themselves. Having no water to aid the gastric juice, the mainfold had become perfectly exhausted from incapacity to soften so large a quantity of dry fodder; inflammation, stupefaction and death followed. Many cattle in the same county died that fall from the same cause. The preventive adopted was not to allow cattle to remain long on such large quantities of dry fodder, and to have them fully supplied with water, before and after going into the field.

Another farmer was very careful this fall while husking his corn to throw out all the smutty stalks, and pile them on one side of his barn out of the reach of his own stock. One of his neighbor's cows, however, got to the heap and has eaten of it for the past six weeks, and thrives well. He therefore doubts whether smut is ever injurious to cattle.

Pure Bred Stock. — We learn by the *Country Gentleman* that Mr. C. Horace Hubbard, Springfield, Vt., has purchased from the well known Short-horn herd of Paoli Lathrop, South Hadley Falls, Mass., the sister heifers *Yarico 55th* and *56th*, by Marmion, 1843, out of Yarico 19th, and *Romance* by Autocrat 2d, 5335, out of Yarico 55th; also of Henry M. Arms, Springfield, Vt., the bull calf *Richelieu*, by 4th Lord Oxford, out of Victoria.

Mr. J. O. Sheldon, Geneva, N. Y., has sold the *Short-horn* bull *5th Duke of Geneva*, to Mr. Edwin G. Bedford, Houston, Ky., for $3000, and ten animals to Col. W. S. King, Minneapolis, Ind.

Mr. John D. Wing, Duchess County, has sold to H. S. Parke, Bay Side, the *Jersey* heifers Fleda and Frolic and bull calf Saratoga, Jr.; and to Geo. I. Seney, New York, the cows Kathleen and Hattie.

BERKSHIRE COUNTY, MASS.—The Agricultural Society of this county was incorporated in 1811, and is still one of the best managed in New England. It pays all premiums offered, and has between two and three thousand dollars in cash in the locker. At the annual meeting at Pittsfield officers were elected for 1869, as follows:—

President—Richard Goodman of Lenox.
Vice Presidents—George T. Plunkett of Hinsdale, J. H. Crooke of Pittsfield.
Secretary—J. E. Merrill of Pittsfield.
Treasurer—H. M. Peirson.
Auditor—Phineas Allen.

We alluded recently to the vote of the Society abolishing all premiums on horse-racing under the name of trials of speed, and also to its action for the protection of farmers against imposition in the purchase of commercial manures.

WINDSOR COUNTY, VT.—We learn by the *Vermont Standard* that at an unusually large meeting of the members of the Agricultural Society of this county, Jan. 19, the following officers were elected for 1869:—

President—Henry Safford, of Springfield.
Vice Presidents—I. T. Tucker of Royalton, Justin F. McKenzie of Quechee.
Treasurer—Lorenzo Richmond of Woodstock.
Secretary—Lorenzo Kent of Woodstock.

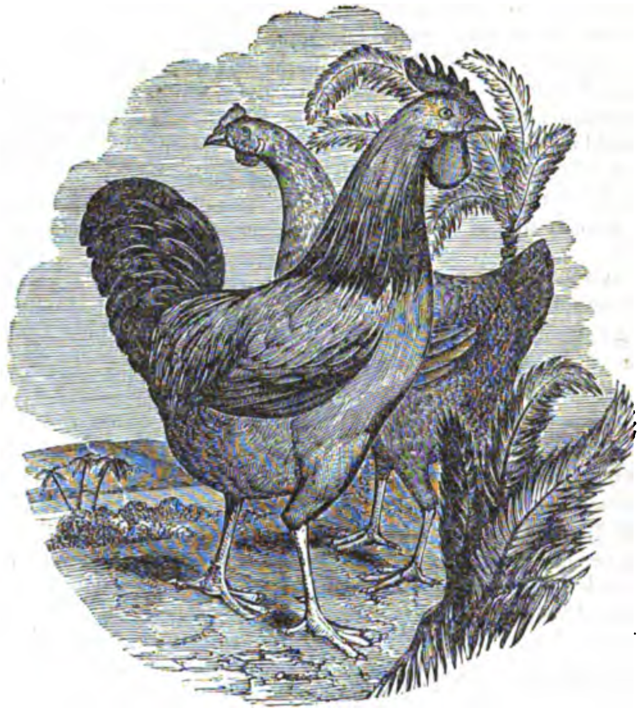
THE POTATO MANIA.—The *New York Sun* says "we have had tulip mania, morus multicaulis mania, but who ever heard of a potato mania?" We supposed that everybody except very young folks remembered the Rohan potato mania, to which the present disease is very similar. It says, "Last Spring the Early Rose Potato sold readily in New York at $3 per pound or $120 per bushel; but this is nothing in comparison to the price at which a new competitor for potato fame is now being sold to some of our speculators in this esculent. Here are the prices of a few *bona fide* sales in the past week, and we assure our readers that there was no discount for cash or cow in this transaction; sixteen potatoes brought $825; twelve potatoes brought $615; one potato brought $50; one was traded for a good cow valued at $60.

MISTAKES OF SHEEP FARMERS.

A large class of sheep farmers have made two or three mistakes, and now threaten to make another. They had not firmness enough to go through a pinching time in the wool business without becoming discouraged, and to a greater or lesser degree *sacrificing* their flocks. Sheep that would have before long been in good demand, and brought a remunerating price to those disposed to sell, have been recklessly crowded off at less than the value of a single fleece, to be killed for their pelts with less than half a year's growth of wool on them. Secondly, many that have retained flocks have abandoned improvements on them; bred them, the past fall, to rams of inferior quality, or made the most irrational crosses. Third, not a few farmers, we are told, in certain portions of the country, are preparing to make another egregious mistake —namely, to give their sheep an excessively poor wintering, feeding them very scantily and compelling them in a great measure to shift for themselves.

The folly of this last procedure is fully equal to that of either of the others; and it is barbarous as well as foolish. If sheep are worth wintering, it is certainly more profitable to give them a full supply of food, and thus preserve their lives and obtain their full amount of wool and lambs next spring, than it is to go to half the same cost for keep and have half or more of the sheep perish in March—lose half the value of the wool and nearly the entire drop of lambs. We question the moral right of any man thus purposely and without actual necessity, to subject to slow starvation and long protracted suffering any animal, and especially any domestic animal. And what shall we say of its humanity? Whoever has seen a flock perishing in March, from starved wintering, can bear witness to the utter misery of the spectacle. Human beings *seem* to suffer no more. Does the prayer, "that mercy I to others show, that mercy show to me," include nothing in its scope but men and women?—*Rural New Yorker.*

SAVING FLOWER SEEDS.—The seeds of such flowers as are liable to be scattered and lost to the raiser, as the pansy, for instance, may be kept for use by tying a bit of muslin around the seed-bud before it ripens and opens.



DOMINIQUE SHANGHAI.

The fragments of the writings of distinguished men are sometimes collected together and given to the world as "Unpublished Manuscripts." As a fragment of that great event, the Hen Fever of 1852, we present this month, the above illustration as an "unpublished cut." It was engraved to illustrate the text of a work on poultry, which in consequence of the sudden abatement of that fever was never published. It is well seasoned, and is too good to be lost; as it was drawn from life, and truthfully represents one branch of the Shanghai family, although the leg feathers, which were a characteristic of the Grey and other varieties of the Chinese fowls, are wanting. Our cut, we believe, was drawn from a pair of fowls of the importation of Dr. Kerr, of Philadelphia, made in 1847, and bred by Mr. P. Melendy, now of Iowa.

As a memorial of this once famous breed Mr. Bement closes his account of them, in his *American Poulterer's Companion*, with the following remarks:—"It was the Shanghai which created the "Fowl Fever," a few years since, and it was on the Shanghai that the bubble burst. They are no longer the aristocracy of the fowl-yard; their day has passed, their race is run."

For the New England Farmer.

SUPERPHOSPHATES AND OTHER CONCENTRATED MANURES.

Friend Brown:—During the two days and evenings of the "Farmers' Convention" at Manchester, N. H., last week, the subject of commercial and artificially prepared manures, was pretty fully discussed. The amount of money annually expended by the American farmer for guanos, superphosphates, poudrettes, ground bones, fish pomace, and other concentrated manures, in the aggregate, is a vast sum.

From the best information I can obtain, I think their use is annually upon the increase, and the inference is that farmers, upon the whole, find the purchase and application of them to their land a profitable investment; though occasionally the use of them disappoints the expectations of the farmer. Such cases may be caused by the use of a poor article of superphosphate or other nearly worthless trash, palmed off upon him by an unprincipled manufacturer or dealer in the article—and, sometimes, a good and really valuable concentrated manure may fail in increasing the crop by injudicious application. Such cases I have known in the use of guano and superphosphate; where the seed, when planted or sown in immediate contact with these powerful manures, failed to "come up"—or if they did come, their growth was greatly retarded.

Before the Southern rebellion, Peruvian guano was sold at about $60 per ton, and large quantities were annually used both North and South—more especially in many of the older Southern States—for the wheat crop.

More than twenty years of carefully conducted experiments by Mr. Lawes, and the practical results of thousands of farmers in England, prove beyond all question, that for the production of maximum crops of wheat a full supply of nitrogenous manures is essential.. Mr. Lawes has furnished his wheat crops with this supply by the direct application of about 150 pounds each of sulphate and muriate of ammonia per acre. This, probably, would be found too expensive for our farmers. Probably the cheapest source from which our farmers could obtain it, would be in the purchase of a prime Peruvian guano, which contains from fourteen to eighteen per cent. of nitrogen, besides phosphates and potash. This guano is now quoted in Boston price currents at $100 per ton, in greenbacks. The average increase of wheat by the application of 100 pounds of guano in England, is estimated at three bushels, or nine bushels per acre from 300 pounds of guano. If it will do that here, (at the price of flour for several years past), *we think it will pay*, even at the present price of guano. Nine bushels of wheat will make two barrels of prime flour--worth here $15 per barrel—300 pounds of guano, freight and application, will cost, say $17, leaving a profit of $13 on the purchase of the guano. It is said, figures don't lie. Perhaps some may say these do. Well, if there are any such doubters, I will have no controversy with them, but will make another statement that will not be discredited, viz: that the people (including farmers) of New England do annually pay out millions upon millions of dollars for Western and other brands of flour. How they manage to meet such drafts upon their pockets, is a question, more easily asked than answered.

There are great numbers of farmers in many sections of New England who have for a long series of years successfully grown both fall and spring sown wheat, never having purchased a barrel of flour in their lives. What these farmers have done, thousands of others can do, if they will set about it in "*right good earnest*."

But to go back to superphosphates. Within a few years past, there have been numerous manufactories of superphosphates established in this country, many of them requiring a large money capital in erecting suitable buildings and the necessary fixtures, and most of them, it is presumed, are intended as "permanent institutions." This, however, will depend very much upon the quality of the article they put into the market. Self interest, however, will prompt them to furnish the farmers with a No. 1 superphosphate, if they can. What is generally understood to be a true superphosphate of lime is composed of pure animal bone and a certain per centage of oil of vitriol, (sulphuric acid).

I have within the past two years experimented with about fifteen different brands or kinds of superphosphate. In colors ranging all the way from the deepest black to white, and in odor, from the most offensive to that which was scentless. Why such difference? We common farmers cannot tell. We think, however, that the offensive odor of some superphosphates is not a safe criterion whereby to judge of its true manurial value. On my farm different brands have exhibited different results. Some kinds greatly increasing the growth or yield of crops over others—perhaps on other soils the effects might have been the reverse. The safest way for farmers is to experiment in a small way with different brands, side by side, on their different soils and crops; by so doing, they may perhaps escape serious loss.

In illustration of the foregoing, at the New Hampshire Farmers' Convention last week, Jos. B. Walker of Concord, read at the meeting a very able essay on the culture of "Indian Corn." In speaking of concentrated manures for that crop, he said, in 1867, he used three different brands of superphosphates,—two of them proved first rate, the other was worthless. He was asked whose brand it was that proved worthless. He declined answering the question. The past season he grew over four acres of corn on the "Concord intervale." About one-third of the corn was manured in the hill with hen manure; the balance with Andrew Coe's superphosphate. That portion receiving the phosphate was decidedly the best, the yield being much larger, and the corn sounder and better matured.

Last spring, S. C. Pattee, one of our best and most intelligent farmers, experimented with a large number of concentrated manures on his corn crop, on inverted sod, no other manure applied to the land. He used eight kinds of superphosphates; seven of them did well,—one nearly worthless. Besides the phosphates, used fish pomace, hen manure, night soil, &c. The phosphated rows ripened in advance of the three last. He gave some of the superphosphates to farmers in his neighborhood. The effects were similar to those on his farm. Phosphates applied to the hills of his potatoes doubled the crop,—and no appearance of rot among them.

There was one brand of superphosphate that gave the best returns, considering the yield of corn and price of it. This year he and some of his neighbors will *club* together and purchase the desired quantity they wish to use direct from the manufacturer, strong in the belief that they will get their money's worth.

For the perfect growth and maturity of our cultivated plants, there are required definite proportions of mineral substances,—viz: potash, soda, sulphur, iron, magnesia, silex, and last, but not least, phosphoric acid and lime; and all the above named are derived from the soil; and they, too, are also absoutely necessary in the growth and well-being of animals. But in different relative proportions from what they are found in plants, from which the animal obtains them.

Said Liebig, "were it possible for a plant to grow, flower and bear seed without the operation of mineral matters, it would be utterly valueless to man or animals."

The potash, soda, sulphur, iron, &c., that enter into the composition of animals, are but "as drops in the bucket," when contrasted with the amount of phosphoric acid and lime required to build up the bony frame-work of "man and animals."

Prof. Liebig says, "In an ox, of 550 pounds weight there are 183 pounds of bones, containing nearly 120 pounds of phosphate of lime; in the flesh, hides and other parts of the animal, fifteen pounds of phosphates."

Now every ounce of the bones of land animals is derived, indirectly, from the soil; and how small a portion of these bones ever find their way back to the soil, where they can become available to the reproduction of succeeding growths of plants.

I think but few, if any, of our people are aware of, or ever give a passing thought respecting the incalculable amount of phosphoric acid and lime—annually abstracted from our American soils and garnered up in the bones of our domestic animals—and never again to find their way back whence they came. Such a depleting system, will sooner or later, exhibit itself in a way that can neither "be hushed up, nor coughed down."

From a review of the New York live stock trade of 1868, I find that there were received at the cattle yards of that city, during the year just closed, 293,101 beeves; 5,382 milch cows; 82,935 veal calves; 1,400,623 sheep and lambs; 976,511 swine. Taking Liebig's estimate of phosphate of lime "in an ox of 550 lbs., any one expert in figures can pretty accurately, or approximately, determine the amount of phosphate of lime received at New York in 1868 in these 2,758,512 domestic animals.   LEVI BARTLETT.

Warner, N. H., Jan. 8, 1869.

EXTRACTS AND REPLIES.

MANURING SWARD LAND.

I wish to inquire of Mr. Brown which he thinks the best way to apply barn cellar manure, in the spring, in its green state, on broken up ground, for a corn crop, and plough it under the sod,—or spread it on top, on a moist, heavy soil?   J. T. A.

West Concord, N. H., 1869.

REMARKS.—There is no settled practice in this matter. Some of our most successful farmers haul the manure directly from the barn cellar, spread it upon the sward and plough it under from five to eight inches. This is done on many farms about us, where excellent crops of corn are annually raised. Our own practice is,—

1. To allow no long or coarse materials to go into the manure heap.
2. To get the manure out into the sun and rain sufficiently early in the spring to overhaul it and get up a slight fermentation; then a second overhauling will reduce it so that it can be comfortably shovelled.
3. Apply it broadcast to the surface—whether on sward or stubble ground—and work it under with the cultivator, just deep enough to cover it.
4. With this, apply home-made guano, ashes, or something else to the hill; plant from the 20th to the 30th of May. Keep the surface light, all weeds out, and on a good soil you will rarely, if ever, fail of reaping an abundant reward for all your labor.

It may be objected that ploughing the manure under will disturb the sod. If the soil was well turned and five inches thick, it need not be turned up. If the ground is quite rough, and cannot be smoothly ploughed, perhaps the manure would be better applied upon the surface before ploughing. Differing circumstances require different practice.

GO WEST, OR STAY AT HOME?

Will you give me your opinion if it is advisable to go out West and purchase a farm of unimproved, new land, and pay $10 an acre, or buy one here at the same price, that is improved, and with buildings, but where the land is nearly run out?

Wrentham, Mass., 1869.   G. W. I.

REMARKS.—Having had no experience of life on a Western farm, our opinion would be worth little or nothing to our correspondent. We suppose, however, that a man of energy, skill and good habits, would do well in either place. We commend the following story from the *N. Y. Tribune*, written by Mrs. Sophia Cunningham, Freedom, Ill., to our friend. If he and his wife have pluck enough to bear the "breaking in," and never say homesick, they will doubtless succeed.

We were just married when we came here, with but $700 and a good name. Paid $520 for a quarter-section, and with the remainder built a small house and got a small amount of furniture. As soon as we were settled, husband commenced teaching for $17 a month, two miles away, and came home nights. These were the darkest days; among strangers, on the wild prairie; not a tree or shrub, and no road by the house. Over across the slough I could see three Irish houses, but could not get to them—I tried it. When the warm spring days came the prospect brightened, but husband was obliged to send East and hire $500. We worked hard and fared hard. I felt the privations very keenly, but I think they strengthened me; I never gave up or said I was homesick. We enlarged our house, and when we had been here six years, built a new house, where we now live. We have a pretty place and a fine orchard; we have our carpets, and even piano. We sometimes go back to our old home; husband has been four times; but we like the new home much. The best I will not tell—that is, what our income is; but it is several times the little capital we brought. We have two healthy boys and good neighbors.

COMPLIMENTARY—A CANADIAN'S VIEWS.

I have long had quite an inclination to express myself a little. As we all admire your FARMER, allow me to say so. Its faults, if it has any, are so few that just now I don't remember any of them. Your articles on Agricultural Societies, Tim Bunker Papers and Greeley's Deep Ploughing, were excellent.

But my present point is this, you States people do not give us Canadians quite fair treatment. We are a good deal misrepresented in many things. Some of your scribbling tourists draw much more on their imaginations than on their regard for truth, as I might illustrate. You don't understand "the crusade against American silver," or rather all silver. Some of your correspondents are not informed thoroughly on both sides of "all that Canadians have said and done during the last few years."

Now if it would not displease you to hear a little plain talk in a friendly way, I will now and then give the Canadian view of some of these things, and among them the wool and tariff questions.

Stanstead, Can., Jan. 16, 1869. J. G. FIELD.

REMARKS.—Remembering "that he that is first in his own cause seemeth just, but his neighbor cometh and searcheth him," and desiring to "see ourselves as others see us," a little of our Canadian friend's "plain talk" we think will be good for us to take. By all means, then, give us your views.

HABITS OF FINE AND COARSE WOOL SHEEP.

Having been a subscriber to and a reader of the weekly NEW ENGLAND FARMER, for the last twelve years, with the exception of 1861 and 1862, I have become very much attached to it, as I have never received a copy that did not contain something fully worth the price of a number, and sometimes a great deal more. I have become particularly interested in that part that comes under the head of Extracts and Replies.

Noticing the discussion going on in regard to the habits and character of different breeds of sheep, I thought I would give you my experience with them. I first commenced with the Merino sheep, keeping a flock of from 180 to 200 for a number of years. I never found any trouble in making them tame and gentle when I was alone with them, but if a stranger went with me to see them they would stick up their heads and run like so many deers. As to their jumping fences, they never troubled me; but they would search out holes and crawl through the fence, and in that way get out of their pasture altogether too often for my patience to endure it. The pasture where I kept them was fenced on three sides with brush and pole fence, and they would crawl through a hole my Scotch shepherd dog could not, and sometimes two or three would stray off one or more miles into lots where the feed was no better, if as good, as in the one they had left. Such was their disposition to ramble that after six years' trial I sold them all out, and changed to other stock.

One year ago last October, I purchased one hundred Leicester ewes, and have kept them ever since, and a more peaceable, quiet flock of sheep I never kept nor was acquainted with. The pasture where they were summered last season is fenced just as the one was where I kept the Merinoes, only the fence was not as good. From my experience with them I am thoroughly convinced that if you will only give them good feed and enough of it, and fence of lawful height, you need not have any fears about their getting out of their pasture or rambling. They are the tamest and most easily domesticated of any sheep I ever kept. My neighbors all keep the Spanish Merinoes, and I have a chance to compare the habits of the two every day. Should you put one, two or five of them in with a flock of an hundred black, greasy, bad smelling, foot-rot Merinoes, they might be ashamed of their company and try to get away, and I should not censure them for it. G. O. B.

Rockingham, Vt., Jan. 18, 1869.

THE SEASON IN CANADA—LARGE CROPS OF WHEAT.

The year just past has been dryer in this section than any year since 1854. A year ago last fall we had very little rain, and not the usual amount of snow. During the winter we had no thaw or rain, consequently the streams were very low and water scarce. We had a wet, cold and backward May, and vegetation was at least ten days behind that of 1867 on the first of June. The summer, however, was so warm and dry, that crops matured much earlier than the year previous. The wheat, corn, and potato crops were very good. Hay, late sown oats and buckwheat, below the average. Winter set in quite early. We have had full ten weeks of sleighing to this date. The streams and deep wells are very low; several in our town have to draw water from the river, nearly a mile distant, both for stock and family use. Fodder is high for this country. Good hay cannot be bought for less than $15, gold, per ton; oats 50 to 60 cents per bushel. Those who feed grain are mostly feeding Western corn. The amount of snow on the ground at this time in the woods about 15 to 18 inches. We have had two short rains since this year commenced, which were a great benefit to those who had empty cisterns. The night of the 12th about eight inches of snow fell.

I subjoin a few figures showing the yield of wheat per acre of some of the best fields in this town:—Hon. T. L. Terrill, from 8 acres threshed 340 bushels, thresher's measure. He thinks it will not be less than 40 bushels per acre by weight. Mr. T. Ruiter raised 27 bushels from one bushel of seed. But these of course are above the average. T. P. JENKINS.

Stanstead, P. Q., Jan. 14, 1869.

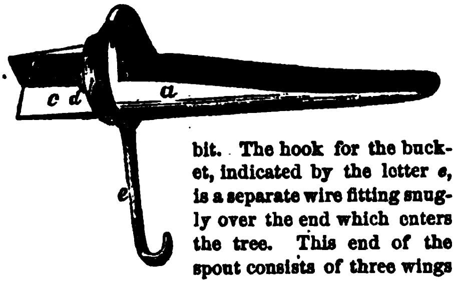
BUTTER-MAKING WITHOUT WASHING.

When I read Mrs. Trask's remarks on butter making, I could hardly keep my fingers from the pen, though I never wrote a line to the printers in my life. Her directions for neatness in milking and in preparing her pans and churn, and also her care to set the milk in a cool, clean place meet my approbation entirely. I think she keeps her cream a little too long in warm weather, and when she comes to wash the butter in cold water I am all "up in arms." Treating it in that way, I don't see how she can expect to see the "gilt-edge," for she has washed out all its nice, peculiar flavor. For this, her "tablespoonful of sugar to each pound" is, in my opinion, a poor substitute. Washing not only injures the flavor of butter, but it injures its keeping qualities. To keep well, the buttermilk should be removed by beating or working the butter over, but never by washing; or, at least, such is the opinion of MRS. D.

South Hanson, Mass., Jan. 13, 1869.

POST'S EUREKA SAP SPOUT.

The manufacturer has sent us a specimen of the spout represented by the annexed cut. It is very neatly made of galvanized iron, three and a half inches in length, and fits the bore of a five-eighths bit. The hook for the bucket, indicated by the letter *e*, is a separate wire fitting snugly over the end which enters the tree. This end of the spout consists of three wings or braces, *c c*, which driven into the tree press against the sides of the hole sufficiently to secure a firm support, and at the same time allow space for three openings *d*, for the flow of the sap into the spout *a*. It is simple, durable, cheap, and quickly applied or removed. Mr. C. C. Post, Waterbury, Vt., is the patentee and manufacturer.



RATS.—THE SEASON IN MAINE.

If the FARMER will tell us how to rid our premises of rats it will confer a favor on many. They destroy my apples, potatoes, &c., in cellar, grain, &c., in barn. Have tried arsenic on bread and butter, and with lard and bits of boiled beef, with only partial success.

We are having a most lovely winter; sleighing excellent, without drifts or blocking snow. During the eleven weeks that the ground has been covered with snow, our hay has been rapidly diminished, and I fear that the seventeen weeks that must interve between this and grazing time will nearly exhaust the large hay-crop of last year.

GEO. TABER.

Vassalboro', Me., 1st mo. 25, 1869.

REMARKS.—Such great things are expected of "book-farmers" that we are almost ashamed to say that in all our investigations into the mysteries of science applicable to agriculture, we have found no better remedy for rats than a good dose of *felis.* To secure the greatest efficacy of this Latin composition it should not be applied too strong nor too weak, too crude nor too much refined. But, to throw away our editorial stilts,—we mean that a cat or two, fed just enough to make them strong and ravenous, but not enough to make them fat and lazy, may be recommended for all rat-infested premises. But if you wish to try some more artistic means of prevention, spread some soft potash in their walks, which may make their toes sore, so they will caution all the rats in the neighborhood not to put foot on your premises; or paint the sides of their holes with tar or something that will dirty their clothes, which they take much pride in keeping clean; or catch one in a trap and smearing him with kerosene oil, give him his liberty; or mix a tea-cup of water in which a bunch of matches was soaked over night, with Indian meal to a stiff dough, adding a spoonful of sugar and a little lard, and place it about the premises where the rats and nothing else will get it; or try common box-traps, so made that the top and one or both ends are open when set, bait with fresh meat, fish or grease, in a grain barn; but if where they can get such food bait with corn or meal. As far as possible keep your hands from tainting the food you wish them to eat, or the trap you wish them to enter.

SALTING CATTLE.

Some farmers give their cattle salt regularly during the winter, others give none at all. One who seldom salts his cattle in the winter wishes to know the practical advantages of salting regularly at this season. H.

Brome, P. Q., Dec. 23, 1868.

REMARKS.—The world is full of crotchets. The idea of keeping cattle without salt and sheep without water sometimes gets into people's heads, but the great majority of practical farmers believe that cattle should have salt on their fodder or in some other way, and that sheep should have free access to water. According to the analysis of learned men, there is more or less salt in the composition of all cattle food and even in much of the water they drink. A ton of hay is said to contain about seven pounds of salt, a ton of turnips four pounds, a ton of red clover ten pounds, a ton of barley but very little, &c. Near the ocean, or sometimes at a considerable distance, it is said that on the windward side of trees salt is actually deposited, after a violent storm. A correspondent of the *Country Gentleman* says that after a long continued breeze from the sea he has himself tasted the herbage distinctly salt, at a distance of twenty miles. If nature thus seasons the food of cattle, may we not take their appetite as the best possible means of deciding whether the food which we furnish them contains as much salt as the wants of their system demand? This may not be a very learned way of deciding the question, it may not seem scientific, like a chemical analysis, but may it not be as reliable?

Professor Simonds, Veterinary Inspector of the Royal Agricultural Society of England, was quoted in our columns, a few years since, as having expressed the opinion that salt by its action on the liver, and the supply of soda it yielded to the bile, led to a greater amount of nutriment being derived from the food. The substance, he said, was also well known as a vermifuge, destroying many kinds of worms in the intestines of animals, and conferring a healthy tone of action which prevented their re-occurrence. Experiments have also been made in England, which showed that animals fed on salt visibly improved in health and appearance, being lively and smooth-coated, while others without salt were shaggy and rough, their gait slow and heavy, indicating want of tone in the system.

Of course salt, like grain, should be fed with judgment, as salt-hungry animals often eat too much, if allowed all they will take. When cattle are allowed constant access to salt, as is the practice of many farmers, they eat a little at a time and without injuring themselves.

CALEDONIA CO., (VT.,) AGRICULTURAL SOCIETY.

At the annual meeting of this Society, held at St. Johnsbury, Tuesday, January 19, the following officers were elected for the year ensuing:—

President—Harley M. Hall, of Burke.
Vice Presidents—Chas. A. Sylvester, Barnet; Calvin Morrill, St. Johnsbury.
Secretaries—I. W. Sanborn, Lyndon; T. M. Howard, Elisha May, St. Johnsbury; O. E. Parks, Waterford; A. P. Walter, Burke; C. J. B. Harris, Danville.
Treasurer—O. M. Stone, St. Johnsbury.

The following resolution, introduced by David Boynton, of St. Johnsbury, was favorably considered and referred to the Executive Committee:—

Resolved, That it is desirable for this Society to encourage the growth and preservation of forest trees in the county; and that the committee on premiums be instructed to include this subject in their awards for the ensuing year.

The meeting was fully attended, and the discussions on rotations of crops, artificial manures and their application, and the growth and perfection of forest trees, especially the sugar maple, were animated and interesting. I. W. SANBORN.

Lyndon, Vt., Jan. 22, 1869.

CULTIVATION OF PEAS.

Some weeks since I read in the NEW ENGLAND FARMER an article in regard to raising peas. I wish to ask if they will do to sow alone, also, the best kind, the quantity per acre, and how they are used for feed? Will it do to sow them on rich land, and if with oats, in what proportion?

AN OLD SUBSCRIBER.

Warren, Mass., Jan. 12, 1869.

REMARKS.—Will the writer of the article alluded to by our correspondent, or some one who raises peas, reply to the above inquiries. Peas are raised extensively in Canada; but we think less are raised in the States than formerly, partly, perhaps, in consequence of the bug which injures the crop, particularly in the southern part of New England. A heavy soil is considered best. They are often cultivated as a renovating crop, and there has been considerable discussion in the New York papers as to their value for this purpose, compared with clover.

ROOTING APPLE TREE LIMBS AND GRAFTS.

In answer to "One Interested" in the FARMER of Jan. 9, I will say that I have had some experience in rooting the apple tree limb. I find but little trouble in their striking root the first year. My method is to lay the limb of a small tree, and cut a slanting cut towards the top and pin the limb down with the top sticking out of the ground. I have some 30 or 40 trees well under way, treated as above — some large enough to bear. My object is to get a tree that is what we might call "full blood," and not wounded by grafting. I have another method of getting a "full blood," as I call it, and that is to take a small tree and run a sharp knife or chisel through the body at points four to six inches apart; then insert scions; lay the tree in the ground with just the top of the scion sticking out. Let them grow one or two years, and I generally find roots enough that have started out of the scion above the old stock to support the tree. If so cut the scion on young tree above the old stock and you have nothing but a "full blood" left.

W. V. TAINTER.

South Carthage, Me., Jan. 19, 1869.

LIME AS A TOP DRESSING.

I would like to ask through your valuable paper what the effects are of dry slacked lime, sowed on a meadow that is becoming mossy; the best time to sow it; the amount to the acre, and if it will pay, lime being worth ($1.50) one dollar and one-half a cask?

The meadow cannot be drained, but where it has been top-dressed the moss has disappeared and English grass has come in. It was so wet last fall I could not get on my dressing, and I would like something that will take its place.

A SUBSCRIBER.

Rumney, N. H., Dec. 12, 1868.

REMARKS.—Lime will make an excellent top-dressing for your meadow. Let it air-slack. You will sow it more comfortably if it is mingled with loam or moist sand. What its precise effect is on the meadow, is more than we can tell. It is quite probable, however, that other and better grasses than those which have been growing upon the meadow, will find congenial food after the lime is sowed, and will flourish there.

SLABBERS IN HORSES.

I am feeding this winter two three-year-old colts, side by side, in the same stable, from the same mow of hay, and in every way they are treated alike. One of them slabbers badly, the other not at all. Can either editors or readers of the FARMER tell the cause and cure of this difficulty, and oblige not only myself but others in this section whose horses are troubled with the same disease. JACK.

East Jay, Me., Dec. 7, 1868.

REMARKS.—We have rarely found a horse "slavering" when fed on dry hay of a good quality. Musty, or otherwise poor fodder, will sometimes affect the digestion, and cause slavering. It may be occasioned, in your case, by the feed, although only one horse is affected by it. Try a change of food, and give a tablespoonful of sulphur mixed with meal, two or three times in the course of ten days.

A GOOD PAIR OF STEER CALVES.

Though fifty-seven years of age and in poor health, I take much interest in stock, and for want of boys, handy my steers myself. I have a pair of calves this year that are superior to those I generally raise, and as I like to read about good calves raised by others, perhaps a notice of my steers will interest some of your readers. They were sired by my thoroughbred Durham bull out of Madonna 5th, by John Bull, out of a native or common cow. My steers are now ten months old and weigh 1400 pounds, and are perfectly handy in or out of the yoke. They had the milk of one cow and 45 pounds of oil meal before the cow went to pasture, and nothing but hay and grass afterwards, till the second day of December, when the cow weaned them. Since then they have had hay and one quart of corn and cob meal each per day.

WILLIAM F. LOOMIS.

Langdon, N. H., Jan. 17, 1869.

THE EARLY ROSE POTATO COOKED.

In reply to a correspondent in your last issue, in regard to the cooking qualities of the "Early Rose" potato, I can answer from personal experience with my neighbors who have tested their merits. I procured ten pounds of seed and planted the same every way as common sorts, except cutting into single eyes. I found them much ahead of any early sort we raised. I had good sized tubers in two months from planting. The yield was beyond my sanguine expectations, the ten pounds giving a yield of 1575 pounds, equal to 26¼ bushels. They cook through very quick and are every way a first-class table potato.

I have noticed an account of a test of several very prominent varieties in New York, at the house of B. K. Bliss. Of the several varieties cooked at that trial, Early Rose was voted No. 1.

Hartford, Vt., Jan. 18, 1869. H. C. P.

SUPERPHOSPHATE.

Last spring I used one barrel of Bradley's Superphosphate of Lime in planting corn. I then purposed making an actual experiment so as to know if the fertilizer was a profitable investment, but in the hurry of harvest I failed to measure the corn, so I do not possess the desired information. Can some reader of the FARMER give it me from *actual experiment?* I pronounce the fertilizer *good*, but am impressed that it costs too much to be profitable. I paid three and one-half cents per pound for mine. Why should it come so high?

Leicester, Vt., Jan., 1869. W. S. A.

A REMEDY FOR KICKING COWS.

Take a cord, make a loop in one end, and make a figure 8 around the hind legs above the gambrel joint and draw tight, and you have a sure cure.

Brattleboro', Vt., Dec. 28, 1868. S. M.

AGRICULTURAL ITEMS.

—A cow gives richer milk when fat than wnen poor.

—D. H. Thing, Esq., has been chosen a member of the Maine State Board of Agriculture for the next three years, by the agricultural societies of Kennebec county.

—Mr. J. P. Douglas, of Middlebury, Vt., recently forwarded 500 bushels of barley to market. It was the first lot, says the *Register*, ever sent from that station.

—Col. Marshall P. Wilder, President of the American Pomological Society has appointed Sept. 15, 1869, for the next meeting of the Association in Philadelphia.

—The famous stallion General Knox has netted his owner, Col. T. S. Lang, $60,000, and increased the value of the horse stock of Maine many hundred thousands.

—The following are the officers of the Sterling, Mass., Farmers' Club:—President, James A. Pratt; Secretary, Ezra Sawyer; Treasurer, Wm. D. Peck, with 127 members, at $1.00 per year. Meetings well attended. A town fair is held each year. Cash premiums last year $241.

—The old complaint of abortion in cows is alluded to by the New York papers. Out of one dairy of twenty-five cows in Buel, Montgomery Co., seven have recently aborted.

—The *Maine Farmer* says that hops have been selling at ten cents per pound in Oxford County; last year from forty-five to fifty-five cents. Present prices do not pay for picking.

—Prof. Gamgee stated at the late meeting of the American Dairyman's Association that he believed that his process of preserving meat might be successfully applied for preserving the flavor of cheese.

—A Mississippi correspondent of the *Dixie Farmer* says that on five or six contiguous plantations where he knew there were nearly one thousand negroes in 1860, one hundred cannot now be mustered.

—Caleb N. Bement, widely known as a writer on agricultural topics, and especially of late years on subjects connected with poultry raising, died at his residence in Poughkeepsie, Dec. 22d, in the 78th year of his age.

—At present the town of Andover, Vt., has no lawyer or doctor, and but one clergyman, no store, grocery, grist mill, and but one blacksmith shop, yet over one hundred copies of agricultural papers are taken by its 129 voters.

—In Paris, toads are sold at the rate of two francs fifty centimes per dozen. The dealers keep them in large tubs. Toads are also kept in vineyards, where they devour during the night millions of insects that escape the pursuit of nocturnal birds.

—The following are officers of the Waldo County, Me., Agricultural Society; J. D. Tucker, President; D. L. Pitcher, Vinal Hill, Vice Presidents; A. D. Chase, Secretary and Treasurer; Wm. N. Hall, J. P. Savery, N. W. Holmes, Joseph Ellis, Trustees.

—A correspondent of the *Country Gentleman* says he finds a sure cure of chilblains in the use of a decoction, made by putting five pounds of oak bark in a kettle with three quarts water and boiling down to one quart.

—There is more timber in Southern Minnesota than there was ten years ago. The prairie fires are stopped by the roads and fields. Timber is too valuable to be wasted and people guard it with a jealous eye.

—At the annual meeting of Springfield, Mass., Farmers' Club, the following officers were elected: G. L. Cutler, President; Jas. Booth, Vice President; Henry M. Arms, Secretary; D. O. Gill, Treasurer.

—The editor of the *California Farmer* has recently visited a farm, or "ranch," of 6000 to 8000 acres belonging to Wm. Bihler, who has recently expended some $20,000 to $30,000 in draining Tule

Lake, which formerly covered about 300 acres. On the land thus drained monster potatoes have been raised. Nine tubers presented to the editor weighed twenty-five pounds and seven ounces—the largest five and a half pounds, and measuring twenty-five inches.

—A stone at Metheun is situated in two States, Massachusetts and New Hampshire; three counties, Rockingham and Hillsborough, N. H., and Essex, Mass., and three towns, Salem and Pelham, N. H., and Methuen, Mass.

—The Vermont State *Journal* says that Mr. Zalmon Pierce, of Calais, wintered two geese and a gander, from which, the past season he raised 27 goslings. When fattened for market they weighed 278½ lbs., bringing $55.65; 17 pounds of feathers sold for $21.25; total $76.90.

—It was recently stated in a discussion by the Waltham, Mass., Agricultural Club, that a farmer in Holliston had raised cabbages on the same land for fifteen successive years, and always successfully. He manures his land with common salt, and watered the plants with lime.

—Four Norman Stallions were lately sold by auction at Irwin Station, Ohio. They had recently been imported, were six, four, four and three years old, and brought $2,335, $2,475, $2,925 and $1,500 respectively. All were purchased by parties in Ohio.

—In reply to an inquiry of Edward Jennison, of Winchester, N. H., at the New York Farmers' Club, Wilson Isham, Watertown, N. Y., E. Coryell, Hooper's Valley, N. Y., Lewis Andrews, West Winstead, Conn., and C. C. Wyckoff of Skaneateles, all state that they have cows, born twins with a bull calf, that bear young, and give milk just like any cows.

—Timothy Mather, of Hartford, has sold to Mr. Capen, of Bloomfield, Conn., four Short-horned cattle,—the bull "Rosalind's Oxford," 6138, the cow "Holiday, 2d" and calf, and a heifer from "Holiday 4th." He has also bought the bull "Ulysses," 6379, by "Brigand," 4598, out of "Windsor Lass."

—California wheat is so dry, by origin and nature, that in coming East through and into a humid atmosphere, it gains greatly in weight by absorption. This is an element of profit to shippers. So with the flour, it will absorb twenty, thirty, even forty pound more water per barrel than our Eastern flour, and so the bakers gain greatly in using it.

—At a Farmers' Club in Long Meadow, several men gave their experience in cow feeding. Mr. Allen said he had found that wheat shorts make the sweetest milk, rye bran the *whitest*, Indian meal the richest, and oil cake the most. Clover, they thought, should be cut early, not mowed away dry, but stored, a little damp, between layers of rye straw. Four quarts of oil cake a day is too much for a cow; she will be likely to calve prematurely.

—In his lecture on the breeding of the horse, delivered at Manchester, N. H., last week, Col. Lang, of North Vassalboro', Me., said the finest gentlemen's horses he had ever seen were in France. There breeding is carried as near perfection as possible in this class as well as in the sporting horses, in which the French people seem to be much interested, and bid fair to beat the world.

—The medical journals report the case of Mr. Eli Townsend, Montgomery, Ala., who treated a horse having the glanders. Mr. Townsend had, at the time, a scratch upon one of his hands, through which his system became inoculated with the poison, and after great suffering, he died in fifteen days from the beginning of the attack. A similar case has recently occurred in the City of New York, where the disease is very prevalent among horses.

—An American Jersey Cattle Club has been formed by the election of Samuel J. Harpless, St. Road Station, Chester County, Penn., as President; Thomas J. Hand, Sing Sing, N. Y., Treasurer; Geo. E. Waring, Newport, R. I., Secretary. Thomas Motley, Jamaica Plain, Mass., S. W. Robbins, Weathersfield, Conn., are announced as members.

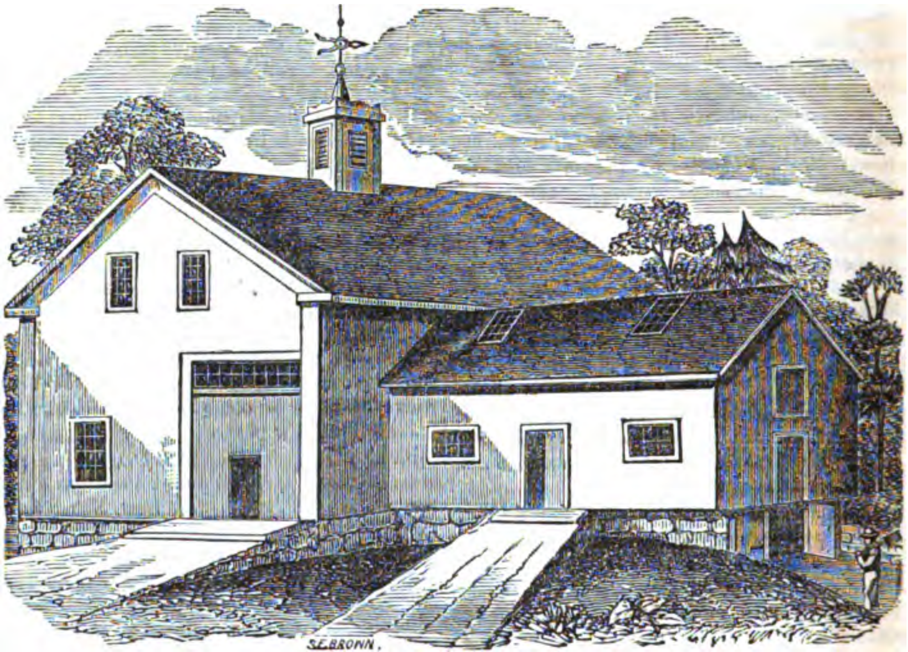
—Mr. J. Harris, of Rochester, N. Y., author of "Walks and Talks on the Farm," in the *American Agriculturist*, and one of the Professors in the New York Agricultural College, said in a late article, "It is more important for a farmer to know how to get out stones, and to have energy and determination enough to do it, than it is to know all about the absorptive power of soils."

—The *Maine Farmer* says that Mr. Drewry N. White, one of the farmers of Dixfield, made the past season over three tons of cheese from twenty-two cows. This will amount, at eighteen cents per pound, the price at which he sets it, to $1,075.00. He raised seventy-five bushels of beans—enough to constitute him deacon for seven years—dried 1200 pounds of apple, and raised thirty-five bushels of wheat on one and one-fourth acres of land.

WINDSOR COUNTY, VT.—At the late meeting of this Society, the committee on farms awarded the first premium to John Miller, of East Barnard, and the second to Elisha S. Gallup, of Woodstock.

The first premium on Spring wheat, yield 22 bushels to the acre, $10 was awarded to John Brockway, of Pomfret.

To T. L. Slayton, of Hartland, was awarded the first premium, $10, on corn, yield 90 5-7 bushels. The second premium, $5, was awarded to Solomon Woodward, Woodstock, yield 79½ bushels.



A MODEL BARN.

We have the pleasure of presenting our readers a Perspective View and Ground Plan of a Barn 36 by 60 feet, for a Hay Barn, Carriage Room, Granary, &c., with a Cow Stable, 33 feet square, with a cellar underneath for manure; the entrance to the cellar is at the south end.

We have long been of the opinion that there is scarcely any one thing in which the farmer is directly interested, that so much needs improvement as the *Barn*. It is an appendage to the farm of the first importance, requiring so much time to be spent in it, both winter and summer, and having such an intimate relation to the profits upon the stock sheltered under its roof, that it is somewhat strange so few good barns are erected, and stranger still, that so few really *good models* are to be found. Several years ago we built a barn of the best materials, and as we then supposed upon the most approved plan, for the stowage of fodder and the comfort and convenience of the cattle and those who were to attend them. It has its ample cellar, ventilator, doors moving on rollers, &c. In its construction we certainly gained two points, viz.: a fine place to manufacture manure, and a pretty equal temperature for the stock. The space for stowing hay, however, is cut into too many parts, affording only scant room and requiring a great deal of labor in the busy season of haying to stow it away. The breath from the cattle, together with the vapor arising from the manure, which defies all attempts to keep it below the floor if the cellar is warm, covers not only the floor over the cellar, but the beams and the whole under side of the roof, with pearly, trickling drops for weeks together during the winter.

If the doors are thrown open in order to evaporate this moisture, we lose the benefits we have been seeking in making a tight barn, by reducing the temperature so much that cattle require *more* food, while the effect is to *reduce* the flow of the milk in the cows.

We could refer the reader to barns built in the most thorough manner, but lacking the proper ventilation, where the timbers over the cellar have become so weakened and dead in a few years as to snap square off like pipe stems, and the shingles of the roof flying by dozens at every fresh gust of wind.

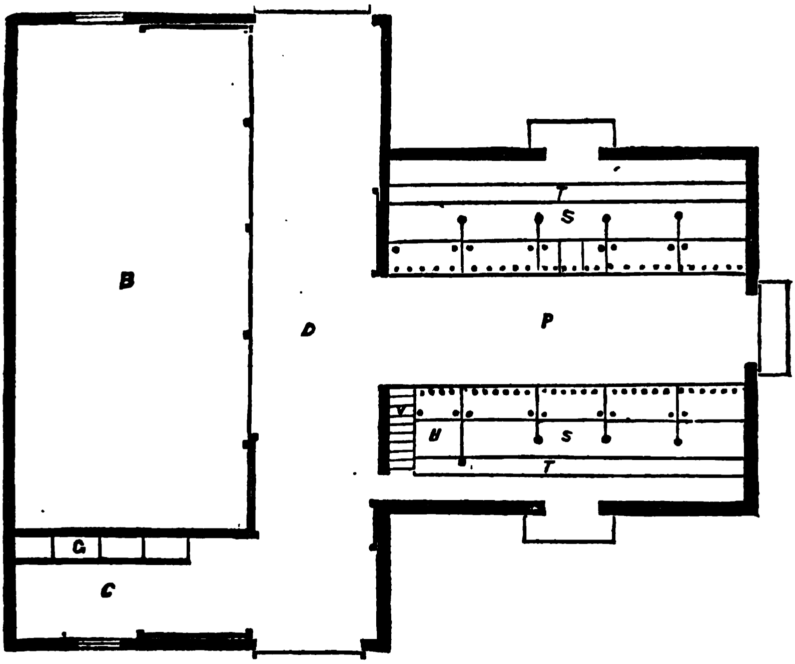
The plan presented above seems to come nearer to the wants of the farmer, where he must build on level ground, than any plan we have ever seen. It has this merit, also, that a cheap barn may as well be constructed in this manner as an expensive one.

The drive way for the hay barn is on the south side, throughout the length of the barn, having a bay for hay 24 feet deep; height of posts 19 feet. The scaffolding over the barn floor in the two first sections to be 14 feet in the clear—the third and fourth sections to be eleven and a half feet in the clear, the remainder 14 feet.

C, Carriage room; *B*, bay for hay; *D*, drive way; *G*, grain and meal bins; *P*, passage way between cow stables; *S*, stalls for cows; *H*, horse stable; *T*, trench behind cows; *V*, stairway. This plan is to have three windows of twelve lights, ten by fourteen glass, to each, on the front or west end; also two of the same size in the opposite gable end. Two windows in each side of the stable, of six lights each, ten by fourteen, with a blind slide with each sash. All outside doors put on rollers; two skylights in the roof of stable to serve as ventilators.

One grand object to be obtained is to separate the cattle stable from the hay barn, by sliding doors above and below, to prevent the hay being damaged by the vapor and ammonia which are constantly arising from the cellar. A small barrow of some simple construction, on a truck, to convey the hay to the feeding passage will save much time in feeding.

Many large and valuable barns have been much damaged by being placed over a manure cellar without proper ventilation.



Ground Plan.

AGRICULTURE IN MASSACHUSETTS.

IT IS well for people in the various pursuits of life, and in all localities, to contrast occasionally the present with the past, and to inquire whether they are making progress, and if so, in what respects, and to what causes such progress is owing. We propose at this time to consider the question, Has there been any improvement in agriculture in Massachusetts within the last twenty years?

Twenty years ago, there were good farmers in Massachusetts. Some attention was being paid to draining. Some good stock had been imported, and there were many good cattle, especially Short-horns, in the State. The importations of the Society for the Promotion of Agriculture had scattered the progeny of this stock into every part of the Commonwealth.

A good deal of attention was paid to the subject of ploughing. Fifty years ago, the first ploughing match had been held by the Massachusetts Society, at Brighton; and from that time much thought has been given to the construction of ploughs. There were instances of high farming to be found within the State. The market gardeners of Brighton, Roxbury and Dorchester, composted large quantities of manure. Mr. Quincy and others had commenced the practice of soiling cows.

But these improvements had not been generally adopted by the farmers. They were moving in the old ruts that had been worn by their fathers. The average crop of corn did not exceed thirty bushels to the acre. The grass crop did not exceed one ton. A large part of the cattle consisted of the old unimproved stock. There were few barn cellars and but little compost was made. Many of the old ploughs were in use, and draining was but little practiced. Most of the farm work was done by oxen. Good horses were the exception, and not the rule. Summer seeding of of grass land was almost unknown. But little attention was paid to gardening among farmers, and their families were very scantily supplied with the better kinds of fruits and vegetables.

In almost all these respects there has been a marked improvement throughout the State. We have now a noble stock of cattle. Everywhere are found Durhams, Ayrshires and Alderneys, or their grades. Poor and inferior cows are considered a disgrace to every farm. A better class of horses is found on the farms and on the roads. Horses have very extensively taken the place of oxen on the farms, and universally on the roads. Better farm implements, as ploughs, harrows, shovels, spades, hoes, forks and rakes, are everywhere seen. Better wagons, carts, and vehicles for riding are universal, and a great amount of labor that was formerly done by the hand is now done by the horse. The mowing machine and horse rake are in general use, and the horse pitchfork and tedder are being introduced upon the large farms. Barn cellars are fast increasing in number. The practice of composting barn manure with muck or loam is generally adopted. The summer seeding to grass is becoming quite common. Draining is practiced to a considerable extent. Fruit raising, especially of pears and small fruits, has greatly increased, and much more attention is paid to the kitchen garden than formerly.

Artificial manures are used to some extent in addition to the greater quantity of manure now made on the farm. More roots are raised and fed to cows. Partial soiling is practiced to a great extent. More hay cutters are used, and more attention is paid to the winter feeding of stock, and as a consequence of this, more manure is made, and of better quality. The result of all this is that the quantity of hay has greatly increased and is of a much better quality. We think that the quantity of English hay has been doubled in the last twenty years. It is generally cut earlier and cured better than even a few years ago. The farmers are everywhere learning that the more completely the hay retains the quality of grass, the better food it is for cattle. The corn crop has increased by from five to ten bushels per acre. In no State in the Union does corn yield more bushels to the acre than in Massachusetts. The quantity of milk has greatly increased, and that much more than in proportion to the increase in the number of cows; showing that cows are better and better kept.

The farm-houses and barns are very much improved all over the State, and are much better furnished than they were even twenty years ago. Farmers and their families are better fed and clothed, and educational privileges are greatly increased, and with them a taste for reading. Agricultural, and other daily or weekly papers, are generally read by the farming population. Music and the means of social improvement are much more common than in the past generation. And yet there is probably no better farming now than could have been found in exceptional instances twenty years ago. But the improvement is now more general. The example of the progressive men has been imitated by the mass. That which was looked upon as a doubtful experiment a few years ago is now adopted as the common practice. What was the exception is now the rule.

We will refer to a few of the more obvious causes to which these changes for the better are due. The encouragement afforded to agriculture by the State, and the efforts of agricultural associations, have done much to bring them about. Much is due to the great improvements which have been made in the mechanic arts, by which farm implements have been multiplied and materially improved. Work is now done by them more easily, more rapidly, and more perfectly. This has contributed greatly to facilitate labor and relieve the drudgery of the farm. We are disposed to attribute the improved condition of farming very largely to this cause.

But the increased and increasing intelligence of all classes of the community, and the greater attention that is paid to the natural sciences and the application of science to art, are the great causes that are bringing about these results. Books, periodicals, discussions in farmers' clubs, and above all, the agricultural papers have awakened the attention of the agricultural community, and given to the minds of farmers an activity formerly unknown. Other causes have had much influence, such as greater facilities of transportation, local markets growing out of the manufacturing establishments which have sprung up in every part of the State, and better prices for all descriptions of produce. These render agriculture more immediately remunerative, and have led to important changes in the products, as well as in the methods of culture.

It is said that there are 5000 species of butterflies known to naturalists, 900 of which are inhabitants of North America.

MAINE BOARD OF AGRICULTURE.

The annual session of this Board commenced at Augusta, January 20th. The meetings of this Board have for several years past been conducted with a plan and system far in advance of those of any other agricultural Board or association of farmers in the country. They are continued through two weeks. At the morning session of the first day the following elections were made:—

President—Hon. Samuel Wasson of Ellsworth.
Vice President—Hon. Seth Scammon of Scarboro'.
Secretary—S. L. Goodale of Saco.
Messenger—A. R. Boardman of South Norridgework.

The last *Maine Farmer* contains a report of the proceedings of the first five days' session, during which essays were had on a great variety of subjects, generally followed by discussions.

In connection with the regular meetings of the Board, there were this year a Potato Exhibition, the annual meeting of the State Agricultural Society, and a general Farmers' Convention, on the plan of the New Hampshire meeting, all of which occurred during the two weeks' session of the State Board.

At the annual meeting of the State Agricultural Society the following officers were elected for the ensuing year:—

President—Hon. Seth Scammon, Scarboro'.
Secretary—S. L. Boardman, Augusta.
Treasurer—Wm. E. Morris, Portland.
Trustees—Warren Percival, Vassalboro', Samuel Wasson, Ellsworth.

For the New England Farmer.

FAIRFIELD, ME.

Farms—Buildings—Stock—Top-dressing with Sheep—Seed Potatoes—Use of Superphosphate, &c.

This township is situated on the west side of the Kennebec river, and is one of the southern towns in Somerset County. Its area is about 48 square miles. The surface is generally quite level, though the western part is somewhat rocky; but the fat sheep which are raised there suggest the old proverb, "The nearer the bone the sweeter the meat."

Generally the farms are good and the buildings substantial,—many of them tasty and furnished with modern conveniences, not to say luxuries. The barns are large, well arranged, and filled with hay, grain, &c., and with all kinds of stock, of the best kinds. Farmers here very justly pride themselves on raising nicely-matched and well-trained working oxen. Their other stock is also very fine. One man in North Fairfield, Mr. T. Janes, told me that he sold a two-year-old steer that dressed 1300 lbs., and a heifer of the same age for $90. He has now an April calf that girths 4 feet 10 inches. His cattle are all of the old-fashioned stock. It is no uncommon thing to find April and May calves that girth 4½ feet, and over.

Mr. Lewis Beal informed me that in the fall of 1867 he tried top-dressing with sheep, as has been recommended by a correspondent of the FARMER. His hurdle or pen was 30 feet square, in which he yarded 160 sheep four nights in a place, when the hurdle was removed to another spot. Last summer he cut the first crop of grass on the land thus top-dressed quite early, as it was lodging badly on account of the great growth. He took four racks, eighteen feet long and well filled, from an acre. On the second mowing he took more hay from this land than ever grew there any preceding year. Besides which, it produced a large growth of fall feed. Some of his neighbors contend that he merely robbed Peter to pay Paul, inasmuch as he took or kept from his pastures whatever was added to the meadow. To this he replies that his sheep invariably seek the same shady side of some ledge, fence, stump or tree, where a large share of their droppings are wasted.

Potatoes are largely cultivated in this town, and are one of its principal market crops, As has been recommended in the FARMER, many here plant the butt end of the potato after cutting off the seed end. The tops of the potatoes in a field thus planted appear light, and to an unpracticed eye they look discouraging all through the season. But, on digging, the result is entirely satisfactory as to yield, size of tuber and exemption from disease. Many have been successful in the use of superphosphate in the cultivation of potatoes. Barn manure excites too large a growth of tops, and induces disease in the potatoes. The plan here is to plant potatoes with superphosphate alone one year, and the next year put in the manure liberally and seed down to grass. It is no uncommon thing to find farmers here with from 1000 to 1500 bushels of potatoes on hand, waiting for a favorable market.

There are six post-offices in the town, but the largest village is Kendall's Mills, where there are some dozen stores, several manufacturing establishments, mills, &c. The railroad accommodations are very good, and a new one to pass through the west part of the town is expected to be in running order by the fourth of July next. ZEN.

Fairfield, Me., Jan. 4, 1869.

FEEDING OFF AFTERMATH.

It is a very common practice with farmers, to reserve their meadow feed until very late in the fall, even so near to winter that the frost has taken nearly all the succulent and nutritious properties out of it; but, by this mode of management, very little benefit is received, and in many cases great injury is done. Some advocate, however, that aftermath should not be fed off at all, but left as a shield and mulch for the roots; but from our own experience, we do not believe meadows are injured by being pastured in the fall, if it is done at the right time, and by certain animals.

Meadows are injured by horses and sheep late in the season; for after the blades of the grass are killed, these animals will nip close to get sweet feed. They should never be allowed upon mowing land after the grass has stopped growing, not even in winter when the earth is frozen, for they will then gnaw to the very roots.

Horned cattle are really the only fit animals for the meadow, and they should be turned in while the feed is good, and removed as soon as the earth becomes moist enough for their feet to break the sod. In this way, a profit may be derived on one hand, without any loss attending it on the other, and sufficient protection left for the roots. Timothy, and many other grasses which are common, take strong hold upon the soil, and are difficult to eradicate, and for this reason farmers abuse their fields.

Close feeding kills out here and there a little, and mosses, with other foreign matters, work in so gradually that it is for a few years hardly noticeable, but eventually the meadow has to be ploughed up and re-stocked, because a paying yield of grass is not received.

Now all this results from injudicious management; for we know of many meadows which yield heavy crops every year, of the best quality of grass, that have never been ploughed or re-seeded since the land was cleared nearly half a century ago. They have always been pastured in early fall, never fed close, and have occasionally received a top-dressing of barnyard manure.—*Ohio Farmer*.

Youths' Department.

From the Independent.

A LITTLE MAIDEN'S SONG TO HER DOLLY.

Lie down, little Dolly, quite still on my lap,
While I hasten to put on your night gown and cap;
You have been wide awake this whole blessed day—
Long enough, I am sure, for a Dolly to play.

The sun has gone down full two hours ago;
'Tis long past your bed-time, you very well know;
The bright stars are peeping from out the clear skies;
Then go to sleep, Dolly—come, shut your blue eyes.

There! a soft little pillow lies under your head;
Had ever a Dolly a cozier bed?
I will cover you up, so warm and so nice—
Then stop your cries, Dolly, hush! hush! in a trice.

Mamma says the flowers were asleep long ago—
Sweet roses, pure lilies, their heads drooping low;
She says 'tis a lesson for me and for you,
That children and dollies should be asleep too.

Hark! Susan is calling, now out goes the light;
I will tuck you up snugly, then kiss you good night.
'Tis time you were sleeping; for do you not know
That the dear little birds went to bed long ago?

[Copied by permission from *Appleton's Juvenile Annual.*]

MORE HASTE, LESS SPEED.

"Shall I reach Tournay to-night before the gates are shut?" asked a wagoner, who was driving an empty cart drawn by a pair of horses at great speed, of another whom he passed driving a similar vehicle slowly along a high-road in France. "Shall I be able to get there to-night before they shut the gates?" he repeated, impatiently.

"Yes, you'll be in plenty of time if you drive slowly," replied the second wagoner; and he proceeded on his way, while the first drove rapidly by, exclaiming:

"A pretty way to get to one's destination—to drive slowly and waste time on the road! No, no, that won't suit me! I'll go as fast as my horses can lay legs to the ground." And he shook the reins and urged his horses to still greater speed.

Meanwhile the driver who had given him the good advice proceeded slowly on his way. Presently he noticed that one of his horses had lost a nail from one of its shoes.

"This won't do," said the driver; "best remedy a small evil at once."

So he drove on as carefully as possible, lest the shoe that was clap-clapping in a loose manner on the road should fall off altogether. And at the next smithy he halted, and unharnessed the good old horse from the wagon. The smith brought out his tools, and in a few minutes honest Ball's shoe was fixed on as tight as ever. [*See engraving*]

"Only a quarter of an hour lost," he said, "but we can move all the more briskly for the delay; so here we start again."

Thus he went on steadily and perseveringly, and arrived at Tournay a full quarter-hour before the gates were shut.

And how fared it with the other wagoner who could not afford to go steadily, lest he should arrive too late? Listen, and you shall hear.

He drove on, increasing his speed as the time wore on. Presently he noticed that one of his horses began to limp.

"Foolish beast!" he said, "who is to get down now, I wonder, to look after your ailments? If you've a stone in your foot, you may shake it out again as best you can. I cannot afford to wait for you to-day."

And he gave the poor horse a loud crack with the whip on the back, so that it gave a plunge, and stumbled on faster than before.

The horse began to limp more than ever. The stone was still there, and the hoof was becoming bruised and sore; but the wagoner would not stop a moment. But now a rough piece of road is to be traversed, surely our driver will check his speed here, and proceed slowly? But no; he only thinks of getting to his destination as quickly as possible. He urges on his horses; the poor beast who has fallen lame gives a desperate plunge, and falling down, breaks the pole of the wagon asunder.

No thought now of reaching Tournay that night. The best thing to be done is to seek assistance at the next farm-house, and go in quest of a carpenter or wheelwright to mend the broken pole. And the wheelwright, when he comes, says that the necessary repairs will occupy at least twenty-four hours, and that he cannot drive his wagon into Tournay until the second day after the accident.

Then the driver wished he had taken the advice of his comrade, and made less haste in the first instance to get on; and he understood how much truth there is in the saying, "*The more haste, the less speed.*"

A SMALL BOY'S COMPOSITION.

Corns are of all kinds. Vegetable and animal. Vegetable corn grows in rows and animal corn grows on toes. There are several kinds of corn; there is unicorn, capricorn, corn-dodgers, field corn, and toe corn, which is the corn you feel the most. It is said, I believe, that gophers like corn; but persons having corns do not like to "go far," if they can help it. Corns have kernels, and some colonels have corns. Vegetable corn grows on ears, but animal corn grows on the feet at the other end of the body. Another kind of corn is acorn; these grow on oaks, but there is a hoax about the corn. The acorn is a corn with an indefinite article, but the corn is very definite indeed. Try it and see. Many a man when he has a corn wishes it were an acorn.

Folks that have corns sometimes send for a doctor, and if the doctor himself is corned, he would probably do as well as if he isn't. The doctors say corns are produced by tight boots or shoes, which is probably the reason why when a man is tight they say he is corned. If a farmer manages well he can get a good deal of corn on one acre, but I know a farmer that has a corn that makes the biggest acher on his farm. The bigger crop of vegetable corn a man raises the better he likes it, but the bigger crop of animal corn he raises the better he does not like it. Another kind of corn is corn dodger. The way it is made is very simple, and is as follows (that is if you want to know:) You go along a street and meet a man you know has a corn, and is a rough character, then you step on the toe that you know has the corn on it, and see if you don't have occasion to dodge. In that way you will find out what a corn dodger is.

Character.—Have you ever watched an icicle as it formed? You noticed how it froze one drop at a time, the icicle remained clear and sparkling brightly in the sun; but if the water were but slightly muddy the icicle looked foul, and its beauty was spoiled. Just so our characters are forming. One little thought or feeling at a time adds its influence. If every thought be pure and right, the soul will be lovely and will sparkle with happiness; but if impure and wrong, there will be a final deformity and wretchedness.

Ladies' Department.

THE PERPLEXED HOUSE-KEEPER'S SOLILOQUY.

BY MRS. F. D. GAGE.

I wish I had a dozen pairs,
 Of hands, this very minute;
I'd soon put all these things to rights—
 How shall I e'er begin it?

Here's a big washing to be done,
 One pair of hands to do it,
Sheets, shirts and stockings, coats and pants,
 How will I e'er get through it?

Dinner to get for six or more,
 No loaf left o'er from Sunday;
And baby cross as he can live,
 He's always so on Monday.

And there's the cream, 'tis getting sour,
 And must forthwith be churning,
And here's Bob wants a button on—
 Which way shall I be turning?

'Tis time the meat was in the pot,
 The bread was worked for baking,
The clothes were taken from the boil—
 Oh dear! the baby's waking!

Hush, baby dear! there, hush-ah-sh!
 I wish he'd sleep a little,
'Till I could run and get some wood,
 To hurry up the kettle.

Oh dear! oh dear! if P—— but comes
 And finds things in this pother,
He'll just begin and tell me all
 About his tidy mother!

How nice her kitchen used to be,
 Her dinner always ready,
Exactly when the noon-bell rang—
 Hush, hush, dear little Freddy.

And then will come some hasty word,
 Right out before I'm thinking,—
They say that hasty words from wives,
 Set sober men to drinking.

Now isn't that a great idea,
 That men should take to sinning,
Because a weary, half-sick wife,
 Can't always smile so winning?

When I was young I used to earn
 My living without trouble,
Had clothes and pocket money, too,
 And hours of leisure double.

I never dreamed of such a fate,
 When I, a lass! was courted—
Wife, mother, nurse, seamstress, cook, housekeeper, chambermaid, laundress, dairy woman, and scrub generally, doing the work of six
 For the sake of being supported!

HOUSEHOLD ECONOMY.

CONTRIBUTED FOR THE NEW ENGLAND FARMER.

MR. EDITOR:—Being interested in this department of your paper and often getting valuable hints therefrom, I would like to submit the following receipts for the trial of all housekeepers who read the FARMER:—

Brown Bread.

Indian meal, two cups; rye meal, one cup; flour, one cup; molasses, one-half cup; two cups sour milk or buttermilk, in which dissolve one teaspoonful of saleratus; salt. Boil or steam five hours. Set in the oven a little while before putting on the table.

Suet Pudding.

Take six ounces each of chopped apples, suet, raisins and bread. Boil three hours. Serve with sauce—butter and sugar beaten to a froth.

Sponge Cake.

One cup of sugar; three eggs; two tablespoonsful cream; one and one-half cups flour; one teaspoonful cream of tartar; one-half teaspoonful saleratus.

Lemon Pie or Tarts.

One lemon; two eggs; one cup sugar. Grate the peel, and sqeeze in the juice. Beat all well together.

Another, more economical: Two lemons; two eggs; three-fourths cup water; three-fourths cup milk; one cup molasses; one cup sugar; one cup chopped raisins. Prepare the lemon the same as above. M. P. B.

Somerset, Mass., Jan. 5, 1869.

CHUCK RIBS OF BEEF, WITH VEGETABLES.—There is hardly a greater error, for modest households, than preferring the best pieces of inferior animals to the cheap bits of bits of excellent beeves, calves or sheep. Any one who can and will follow my prescription to-day will be abundantly convinced of this.

Try to buy the chuck-ribs of a fine beef and prepare as follows:—

Chuck-ribs and vegetables,—divide the piece of beef if too large. Place the whole in a pot or earthen jar, surrounded or covered with coarse salt; cover the pot, and leave for five or six days.

To cook, relieve it of the salt; wash slightly in soft water and set it to cook in a large kettle or earthenware pot, without too much water; when the foam has risen, season with a little onion stuck over with cloves and with a bay leaf; let it boil an hour, then stir in plenty of (blanched) cabbage, carrots, turnips, potatoes, etc., and allow them to cook gently until done.

At the time of serving, make a butter-sauce without browning it too much, mixing it with the remains of water in which the beef and vegetables were cooked; season with salt and pepper, if necessary. Let it simmer down, and serve in a large dish, the vegetables beneath, the meat upon them, a part of the sauce poured over, and the rest in a boat.

TO FRESHEN SALT FISH.—Many persons who are in the habit of freshening mackerel, or other salt fish, never dream that there is a right and a wrong way to do it. Any person who has seen the process of evaporation going on at the salt works, knows that the salt falls to the bottom. Just so it is in the pan where your mackerel or white fish lies soaking; and, as it lies with the skin down, the salt will fall to the skin, and there remain; when, if placed with the flesh side down, the salt falls to the bottom of the pan, and the fish comes out freshened as it should be. In the other case it is nearly as salt as when put in.

GLOSS ON SILK.

The method of giving an artificial gloss to the woven pieces was invented in 1663. The discovery of the methód was due to pure hazard. Octavio Mey, a merchant of Lyons, being one day in deep meditation, mechanically put a small bunch of silk threads into his mouth and began to chew them. On taking them out again into his hand, he was struck by the peculiar lustre they had acquired, and was not a little astonished to find that this lustre continued to adhere to the threads even after they had dried. He at once bethought him that there was a secret worth unravelling in this fact, and being a man of wits, he set himself to study the question. The result of his experiments was the *procede de lustrage*, or "glossing method." The manner of imparting the artificial gloss has, like all other details of the weaving art, undergone certain changes in the course of years. At present it is done in this wise: Two rollers, revolving on their axes, are set up a few feet from the ground, and at about 10 yards, in a straight line, from each other. Round the first of these rollers is wound the piece of silk of 20, 40, or 100 metre's length, as the case may be. Ten yards of the silk are then unwound and fixed by means of a brass rod in a groove on the second roller, care being taken to stretch the silk between the two cylinders as tightly as possible. A workman with a thin blade of metal in his hand daintly covers the uppermost side of the silk (that which will form the inside of the piece) with a coating of gum. On the floor under the outstretched silk is a small tramway, upon which runs a sort of tender filled with glowing coals. As fast as one man covers the silk with gum, another works the tender up and down so as to dry the mucilage before it has had time to penetrate the texture. This is a very delicate operation; for if, on the one hand the gum is allowed to run through the silk, or if on the other, the coals are kept too long under one place, the piece is spoiled. In the first instance it would be stained beyond power of cleaning, and in the second it would be burned. None but trusty workmen are confided with this task, and even with the most proved hands there is sometimes damage. When ten yards of the piece have been gummed and dried they are rolled round the second cylinder, and ten more are unwound. This is repeated till the end. But the silk, with its coating of dry gum, is then stiff to the touch and crackles like cream-laid note-paper when folded. To make it soft and pliant again, it is rolled anew some six or seven times under two different cylinders, one of which has been warmed by the introduction of hot coals inside, and this is sufficient to give it that bright, new look which we all so much admire in fresh silk.—*Cornhill Magazine.*

OLD MAIDS.

There is a stigma of reproach cast upon the term "old maid"—too often justly so, I admit. But where does the fault lie? I know two women who may be cast in this category—unmarried, forty years old, or thereabouts. Both are of good family, the daughters of wealthy men. The one, some dozen years ago, finding, as no sensible woman can fail to find, that fashionable life had nothing in it to satisfy her, made a stand for herself. She told her family that she must have a life of her own. She had no especial gifts, except a remarkable aptitude for business, inherited from her father. In a quiet way she had turned her attention to fruit-growing, a branch of industry offering many attractions to her, and into that business she determined to enter. Fortunately she had sufficient money left her by her grandfather, to be able to carry out her plans, despite the sneers of her fashionable acquaintance, and the objections and obstacles raised by the home circle. She established herself on a fruit-farm in the western part of this State. Her work prospered. Now she is the owner of several hundred acres, and has constant and remunerative occupation of a kind agreeable to her. After a few years her father died, and, instead of the rich man he was estimated, he was found to be bankrupt. This daughter had a comfortable home and support to offer her mother and invalid sister. She has quite a settlement of work-people, men and women, to whom she and her sister minister in various ways. In fact, she lives a life which is useful to others and develops her own powers, and in the consciousness of that she finds happiness and peace.—*Lippincott's Magazine.*

AN IRISH STEW.

On a cold winter's day an Irish stew is a very toothsome thing. Many compounds called by the name are not the real thing, and we have seen heterogeneous mixtures of beef and various vegetables served as Irish stew. You can no more make Irish stew out of beef than you can pea soup of pebbles. Mutton is the basis; beef makes a good stew, but it isn't "raale Irish." Then this stew is not only good but economical, as the neck piece of mutton is the part generally preferred. Cut the neck into chops, and wash if bloody. Two and a half pounds of mutton require eight good-sized potatoes, four small onions, and a quart of water. Now in the cooking judgment is required; the meat must be thoroughly done, so as to leave the bone readily, for picking is a part of the pleasure in eating the stew, and the potatoes must be cooked to that point at which they are just ready to go to pieces and have absorbed a good part of the gravy. So if the meat appears at all tough, it had better be stewed awhile by itself; then add the potatoes cut in thick slices, the onions, and pepper and salt. It is to be served very hot, as it is apt to be very rich with fat, and mutton fat hardens readily. This is, of course, not a dish for those who cannot tolerate fat; but most persons who take much exercise in cold weather actually need a good share of fatty food.

THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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MONTHLY.

SIMON BROWN, S. FLETCHER, EDITORS.

ASPECTS AND DUTIES OF APRIL.

Off where the steep bank fronts the southern sky,
By lanes or brooks where sunbeams love to lie,
A cowslip-peep will open, faintly coy,
Soon seen and gathered by a wandering boy.—*Clare.*

OF ALL the months, April is the most inspiring. Not because it has the most pleasing character, the softest airs, the loveliest flowers and richest perfumes. Not these, nor pleasant walks, nor charming rural drives. The word *April* means "to open." It is the month when the earth *opens* her bosom again, and invites the husbandman forth to cast seed into her warm embrace, where it shall fructify and bear him fruit abundantly. It is juvenile and fickle, we admit. "Fickle as a fond maiden with her first lover; coying it with the young sun till he withdraws his beams from her, and then weeping till she gets them back again." April puts a spirit of youth in everything. All nature is animated anew. The cocks crow, hens cackle, cows low and lambs bleat. The earth puts on a new mantle. Hardy flowers peep out in the moist valleys, and those more tender, in sunny nooks on the hills, flanked by the green and tender young grass. The mosses on the rocks throw out their tiny blossoms, and try to perfect themselves and thus continue their kind, before May suns may be too fervent for them.

There is a time for all things; so in April there is a *best* time to do certain things which are peculiarly ours, as farmers, to do. One is to complete a plan—if not already done—for all the operations of our spring and summer work, so that there shall be no doubting or halting as to what lands are to be ploughed, what crops put in, what buildings or fences erected or repaired, and what help shall be depended upon to perform the work. Some may say that "sufficient unto the day is the evil thereof." But labor is *not* an evil; it is a *blessing*, and that blessing may be greatly multiplied to each one of us by finding it in a well-regulated business,—in a complete system in all our labors. Then each duty may be performed in its own appropriate time, and its work done and out of the way of other work that will naturally succeed it.

Another duty is to look to the *condition of the highways*, and see that all labor needed upon them is done in the month of April. Most of the highway surveyors are farmers. They do not disturb the soil of their fields while in a wet and heavy state, because they know it will have a strong tendency to make it compact, and greatly increase the labor of cultivating it through the summer. For this reason, therefore, April is the time to repair the highways. A dollar judiciously expended upon a road now, will be worth as much as two dollars will if expended upon it in June, or at any time when the soil is in a dry and mealy condition. Besides this, the opportunity in early April is more favorable for the farmer than in May or June. His business is not so pressing, his teams are stronger and can be better spared from the farm. When the work is done in April, the earth is not only moist on the surface, but the moisture extends through it all for several feet downward, so that it has a strong tendency in itself to pack, and when driven over by animals and teams, soon becomes so firm as to make it hard and even through all the coming summer. If left to the last of May or into June, gravel or sand hauled upon the road is displaced by every passing team, and thus becomes a perpetual nuisance and an unnecessary source of cost.

Another April duty, and one sadly neglected by many farmers, is that of getting manures into a position where they can be overhauled, moderately fermented and made fine. They do not reflect that hard lumps of earth are of little more consequence to plants than so many stones. Roots only take in nourishment that is in a state of solution. That is, the soil itself should be in *fine* particles and the manure that is added in same condition; then when water percolates through them it extracts their nutritive properties and holds them in solution. The soil and manure being fine and loose, the tender roots of plants easily find their way among them, and at the same time the moisture which has extracted nutrition from them is holding it for the roots as they pass along. It would seem from this that one cord of manure in a fine condition would be of more service than two or three would in a coarse, lumpy state. Those, therefore, who are deficient in the quantity of manure they would like to use, may find relief by examining and testing this matter in this spring's operation on their farms There are many other things which can better be done in *April* than at any other time. The observing farmer will see that they are not postponed until "another time."

—Equal quantities of powdered alum and common salt, well mixed together will often cure the toothache when it will not yield to most other remedies.

HORSE BREEDING IN VERMONT.

Did you ever look into the pigeon holes of an editor, or realize how many excellent articles he reads over but is obliged to defer their publication to a more convenient season. The essay on Raising Horses by Hon. T. S. Lang, read at the Maine Farmers' Convention was laid aside for this purpose, and now we have in the *Rutland Herald* an essay on Horses read at the late annual meeting of the Vermont State Agricultural Society, by L. T. Tucker, Esq., of South Royalton, Vt., in which he considers, 1. What Vermont Horses have been; 2. What they now are; 3. What they ought to be; 4. How to make them such. We regret our inability to publish either of these documents entire, at present.

In a late discussion of the subject of horses by the Westminster, Vt., Farmers' Club, Mr. W. R. Kimball stated that "twenty years ago our horses were two sizes larger than now." Mr. Tucker says "most of the stallions now in use lack blood as well as speed; our mares no better, no, not as good." Formerly we showed to the world the best horses to be found; now others are in advance of us, and control the market." In concluding his address Mr. Tucker submits the following suggestions for the improvement in the breed of horses, which are very much the same as those made several years since by Mr. Meech, of Shelburn.

> First, by any and all means, we must labor individually and by associations, to retain our best stock that we now have. Much of it is good. Had we for the past fifteen years retained our best mares for breeders, and with them now had standing in Vermont Sherman's Black Hawk, Paul Clifford, Stockbridge Chief, Peck's Black Hawk, Ethan Allen, Young Columbus, Young Morrill, Draco, Fearnaught, and Draco Prince, the value of our stock in the market would be double what it is.
>
> Breeder's associations in every county properly organized for this purpose, could do much toward working a reform in this respect. Sheep and cattle men well understood that to retain the superiority of the flock or herd the best animals must not be sold at any price. It is just so with horses.
>
> In addition to this reform, we need and *must have* a horse-breeding establishment in the State equal to that of the late Alexander, near Louisville, Kentucky.
>
> On such a place we want two or more of the best English Thoroughbred Stallions in the world. Also forty to fifty of the very best mares of this breed that can be found. Also two or more of the best bred and fastest trotting stallions to be had, and some fifty of our best bred trotting mares. These English horses should be kept pure, while at the same time much value could be added to our native stock by judicious crosses.
>
> There needs from one to two hundred thousand dollars capital to start and run it. An income

cannot be had from it much short of six, eight or ten years.

An experienced breeder, and the very best judge of horses to be found, should be at the head as manager of breeding and fitting for exhibition and sale.

On the place should be a park for driving, second to none in the world. The best of stables should be there, and nice paddocks for the colts to run in and grow in their freedom and safety.

This place should be kept by a kind, genial, sensible man. One who is, and will be, honest, everywhere and at all times.

To aid us further, we should, at our annual fairs, have our organization so perfected as to reach within every county in the State, and call out the best horses for exhibition.

With such a state of things as this in Vermont, who can doubt but that our stock would be equal to, if not the best, in all our country in a very few years? There cannot be a shadow of doubt about it. Neither can there be any doubt but that the world would again come to our State with cash to pay for our horses.

Where is the wealthy son of Vermont to take hold of this in earnest, and thereby confer a substantial and lasting benefit upon our State?

For the New England Farmer.

THE GARDEN IN APRIL.

Little is gained, but much vexation and disappointment result often from planting tender vegetables in the garden or elsewhere, too early. The ground must have time to thaw, settle and become warm; and if the garden is naturally well drained, or has been underdrained thoroughly, these conditions are much earlier attained than otherwise. Having so often urged the necessity or importance and economy of a *good* garden, in connection with the farm and household, it is unnecessary to further allude to it here. Those who have enjoyed the products of a well managed garden will not need further arguments to convince them of its importance. Those who have neglected the garden for other general farm crops and products, are assured that a good garden *will pay*,—pay in more than one way, too. The requisites are a good sheltered, warm location, with fair exposure to the warm rays of the morning and mid-day sun, warm, rich, deep, well fined soil, with plenty of good manure, and a spirit of energy and perseverance not to be discouraged at trifles, nor inclined to put off a present duty to a more convenient time. It is very easy to test the correctness of this statement by trying a garden, as recommended, and keeping a rigid debt and credit account with it,—crediting everything taken from it at its market value, and charging everything laid out on it; and at the end of the year compare the account with that of any field crop, without taking into the account the greater degree of health you and your family have enjoyed from having vegetables, &c., fresh from the garden, instead of those bought in the market after becoming wilted and losing their freshness, or from having been raised by yourself instead of others.

ASPARAGUS.—Rake off the coarser winter covering of manure, sow a sprinkling of salt or brine over the bed, and fork in the whole, working the surface mellow without injuring the crowns of the plants. For new beds make the soil rich, work it deep, and plant out good strong one-year-old roots, one foot apart each way, covering the crowns three inches deep with rich fine soil.

BEAN POLES AND PEA BRUSH should have been gotten in readiness before this; but if not done, lose no time in providing all that will be needed; as soon the sap will flow and the leaves will grow on brush after they are cut, and when stuck they have an unsightly look.

BEETS.—Early Bassano may be sown as soon as the ground will admit, as the plant is hardy and will endure a considerable degree of frost, and the seed is slow to germinate. The seed of the beet is not that which usually passes as the seed, which in reality is a kind of woody envelop or cup enclosing several seeds; for this reason, it is, we often find several plants close together apparently from one seed; hence the remark "my beet seed grew five or six plants frôm one seed." The seed should be sown thinly in drills eighteen inches apart and covered half an inch with fine soil.

CABBAGE.—Seed may be sown in the hot-bed, or in boxes, set in the kitchen window, or in cold frames; and late in the month sowings may be made in the open ground. Plants grown in the hot-bed, or wintered in cold frames, should be hardened off and transplanted as soon as it will do; prick out from the hot-bed into cold frames or pots and harden, so as to set in the open ground as soon as the weather will admit. Properly hardened and grown, they will endure quite a degree of frost.

CAULIFLOWER.—Early plants in the hot-bed may be transplanted into cold frames or potted and hardened so as to set in the open ground when the weather becomes settled. The more judicious hardening they have, in the mean time, the better.

COLD FRAMES.—These are oftentimes substituted for the hot-bed and are advantageous in starting many plants under, that will not endure the open air yet, and require a long season; but they require care in ventilating, &c.

CRESS.—Sow in rows six inches apart, in warm well prepared soil; sprinkle the plants with ashes and plaster mixed, to keep insects off.

DRAINING.—Many gardens in the country will pay well for underdraining. Soils are benefitted in many ways by underdaining. Thorough underdraining is often equivalent to an entire change of soil and climate, making the soil more porous, sweet, mellow, warm, &c. A single drain will often work wonders in a garden, and it will cost but little to try the experiment.

Hot-Bed.—With most farmers, early this month will be soon enough to start the hot-bed. Modes of preparing and managing them have heretofore been given and need not now be repeated. Sow seeds for early and tender plants, and those requiring a long season, such as lettuce, radishes, egg plants, &c.

Onions.—Sow seeds in well prepared beds and ground as soon as the soil will work without sticking to the tools. Wood ashes makes one of the best fertilizers for the onion. Manure with any kind of weed or foreign seed in it is to be especially avoided. Sow in drills one foot apart; use seed of last season's growth only, as older will disappoint you.

Parsley.—The seed is a long time coming up and should be sown early. It makes a very pretty edging for beds or borders, &c.

Parsnips.—Sow in rich, deep soil, in drills eighteen inches apart, as soon as the soil will admit. Last year's growth of seed should be used.

Peas.—Plant early varieties in well prepared soil in good heart; dry, warm soil is the best. The pea plant is seldom injured by spring frosts,—will often endure to be covered with a late snow after coming up, as I know by experience and frequent observation.

Seed.—Set out cabbage, parsnips, carrots, onions, turnips and other roots in rich soil, to grow seed for another year, where they will meet the notice daily, that they may have proper care and the seed be gathered at the right time. Some seeds are better grown in every garden than to depend upon the market therefor, as adulteration, &c. is too frequent. Some growers and dealers are to be implicitly relied upon; but I am sorry to say all are not.

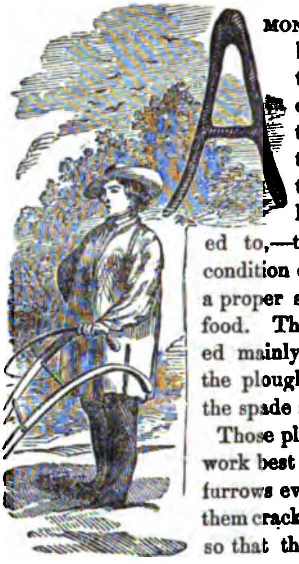
I have always found it perfectly safe in planting beans, cucumbers, melons and the like, "to make haste slowly," and retain the seed in the house till well into May, when we have settled warm weather.

Wm. H. White.

South Windsor, Conn., 1869.

Wool Growers of the West.—The adjourned winter meeting of the Northwestern Wool-growers and Sheep-breeders Association was held at Turner's Junction, Ill., Feb. 16. The Annual Sheep Fair and Shearing is to be held at Belvidere, Ill., May 18–20. Resolutions were passed in favor of the continuation of the present duties on foreign wool; against the renewal of the reciprocity treaty; in favor of a joint exhibition of wools and woolens in the West, and also of that in New York, in 1869. The *Western Rural* says the meeting was very interesting and showed that the breeders of sheep in the Northwest are not all disheatened. The following topics for the evening discussions at the Shearing Fair were announced:—Feeding and Care of Sheep; Time of Lambing; Time of Shearing and Mode of Preparing Wool for Market.

PREPARATION OF THE SOIL.



AMONG the objects to be attained in the preparation of the soil for the reception of the seed, two things are chiefly to be attended to,—the mechanical condition of the soil, and a proper supply of plant food. The first is effected mainly by the use of the plough, the harrow, the spade and the rake. Those ploughs do their work best which turn the furrows evenly and leave them cracked and broken, so that the air and rain can penetrate through their entire thickness. The short and convex mould-board does this most effectually in most soils.

The proper depth of ploughing must depend much upon the nature of the soil, and the treatment it is to receive. If it is naturally deep, or if it is to be heavily manured, a deeper ploughing is proper than in a shallow soil, or where a lighter manuring is to follow. A well pulverized seed bed, as deep as the roots ordinarily penetrate, is the best safeguard against excessive wet or extreme drought. In the one case it allows the water to reach below the roots of the young plants, and in the other it enables the roots to penetrate more deeply in search of needed moisture, and causes the moisture to rise by capillary attraction from below. When the furrow has been turned, especially on grass land or sod, the harrow or cultivator should follow until the soil is fine and friable to as great a depth as possible without displacing the sod. On a compact or clayey soil the Pepperel harrow does good work. Where this is not at hand, the cultivator is better than the common square-toothed harrow.

Then apply the manure and work it in with the harrow, the cultivator or horse-plough until it is thoroughly incorporated with the soil. This is an important matter in the preparation of the soil. If it is placed below the furrow, or left upon the surface to be dried and dissipated by the sun and air, or in unbroken masses in the soil, the wants of the plant are not met. We should not be satisfied until the manure is thoroughly mixed with the soil. Then with the soil well pulverized and disintegrated and thoroughly mixed with the manure, we have done what we can to prepare it for the reception of the seed. The season and future cultivation must do the rest.

But in pulverizing the soil and fitting it for the seed, we may avail ourselves of the assistance of certain natural forces. When the soil is tolerably dry it crumbles more readily, has less tenacity, and its particles are more easily separated. If the plough is put into a heavy, wet soil it converts it into mortar and presses its particles more compactly together.

A soil containing much clay should never be ploughed while it is wet. Lumps and masses are formed that will scarcely be broken up and separated during the entire season. Land is frequently injured by inattention to this circumstance.

We said that the furrows should be left in a cracked and broken condition by the plough. If this is done in the autumn the water and snow penetrate the whole thickness of the furrow. Now every one knows that when water freezes it expands. By this expansion of water in the soil its particles are separated from each other, and the whole mass is loosened and disintegrated. This is one great advantage of ploughing in the fall. The freezing and thawing of the winter and spring greatly assist in pulverizing compact soils, and the farmer who neglects to avail himself of this aid loses an important advantage which nature offers him.

If the soil is a sandy loam, fall ploughing is not so important. Indeed many good farmers prefer to plough such soil in the spring and plant as soon as possible after ploughing.

If green, uncomposted manure is to be applied to an old soil, we prefer to plough it in, late in the fall, especially where the land is level. In this way the manure becomes evenly diffused and mixed with the soil, and it will be light and friable in the spring, and admits of being worked earlier. In a soil that is to be used for garden crops or for roots, we think there is no better mode of preparing it than this. If a little fine compost or some artificial manure is applied to the surface and worked in after the spring ploughing, with the harrow or rake, we have a seed bed of the very best description; and indeed for wheat or hoed crops we know of no better plan. On most soils, we have thus the two essential conditions required,—a well broken and pulverized soil, and plant food evenly mixed and within reach of the young plants.

But some one will object that this preparation requires too much time and labor. Well, then, apply your labor and manure to a less breadth, to fewer acres, and if the work is done thoroughly, you will obtain a larger crop and leave the land in a better state for succeeding crops than if the same amount of labor and manure was given to a larger surface, with imperfect cultivation.

We have said nothing about draining as a means of preparing the soil. This would require a chapter by itself. Where this has been properly done, and the conditions above spoken of are observed, we have the foundation laid for that *high culture* on which our success in farming in New England must hereafter depend. The importance of suitable preparation of the soil is not sufficiently impressed upon the minds of most farmers. It is quite as important as the subsequent cultivation, which seems in general better understood. But upon well prepared soil the after cultivation is much easier and more effective. The cultivator and the hoe work more evenly and more rapidly.

The market gardeners understand this matter. We see them ploughing in manure in the fall, even on light land from which two or three crops have been taken, and which has been constantly cultivated from the early spring. The larger crops produced on a garden soil are not due entirely to the larger quantities of manure applied, but in great measure to the constant use of the plough and spade, and the intimate mixing of the manure with the soil. We not only plough our kitchen gardens deeply but we follow the plough with the spade and the rake. The results we daily witness, and it is only by such preparation of the soil, that our fields will be converted into gardens.

—Three farmers came with their teams from the interior of Minnesota to the river. One hauled goods for a merchant and got $40, one had 450 pounds of cheese, and got $80, and the other had 20 bushels of wheat which he sold for $30.

THE DAIRY REGION IN WORCESTER COUNTY.

During our late visit into the dairy region of Worcester County, to attend the annual meeting of the *Massachusetts Cheese Manufacturers' Association* at Barre, we found opportunity to look at several fine herds of cattle in their *winter* quarters, and to make many inquiries in relation to the manner in which they are fed and tended.

A statement of the practice adhered to by one dairyman will show the general rule in that region, as far as we had opportunity to learn. Partaking of the hospitality of Mr. J. T. Ellsworth, enabled us to occupy such spare time as occurred in looking at his stock with some care, and of having free conversation with him in regard to the manner in which it is fed and tended.

He winters about fifty head of cattle, mostly cows, and a large portion of them grade Short-horns. Those which have come to maturity, say seven or eight years of age, are of more than medium size whose dressed weight would be seven or eight hundred pounds. They have been bred from *pure* sires, and the best grade dams; dams that have been carefully selected; that is, the best shaped and most promising calves are never sent to the butcher, but preserved for the milk pail and to supply the places made vacant by removing the old cows. They all possess the peculiar characteristics of the *Short-horn* race; the muzzle fine, the face slightly dishing, the eye full and bright, the forehead broad, the throat clean, the ear of medium size, thin and moving quick, the shoulders wide at the tops, brisket broad and low, legs fine and ending with a well rounded foot; the ribs round and full, and running well towards the hips; the back straight from the shoulders to the tail; the hips wide, and level with the back and loins; the rumps wide; tail set on a level with the back, small and tapering. These are only some of the more prominent points, but they *are prominent* in all the best dairy herds in this region. It is curious to find this sameness in passing from one farm to another. In certain instances, one might fancy that some invisible power had transferred the stock at which he had just been looking, into the next neighbor's barn!

Such is a brief description of the animals which are to be fed and tended, and to yield a profit to their owner for the cost and care bestowed upon them. Mr. E. feeds in the spring but twice each day. That is, they are fed for about two hours in the morning, *a little at a time*, at the end of which period they have generally taken all the food they care for. If the weather is fair they are then turned into a pasture convenient to the barn, as soon as the ground is settled, where they remain through all the middle of the day. This course is commenced by the first or middle of March, according to the season. Mr. Ellsworth thinks this is highly beneficial to the cows, as they get pure air for several hours in succession, they get exercise in nibbling the short grass, whether dry or green, and derive some unexplainable good from coming to the *bare ground*, either in the smelling of it or in some other way.

After enjoying their recess in the pasture, they are taken to their stalls, and each cow has six quarts of sliced roots, and as much good hay as they will eat. They are then milked, turned out to drink and then returned to the stable. This is the daily process of *spring* treatment, and all these operations are done at exact times. When the precise time comes, the cows flock about the barn, whether the village bell strikes four or not! If neglected when the proper hour for watering arrives, they express their uneasiness by signs that cannot be mistaken. Habit has become a second nature to them, and that habit cannot be broken in upon with impunity.

When the grass in the pastures has sprung up so as to afford a "fair bite,"—not too rank, for then the cows do not like it so well—they are turned out and allowed to remain all night unless the night is cold or stormy. In the morning, however, the cows are fed in the stable so long as they eat with a relish. He always milks in the barn, and feeds no grain of any kind. Gives salt as much as the cattle will eat at all seasons of the year, but adds very little salt to the hay as it is got in in summer.

How he Manages his Pasture.

One of the most striking features in Mr. E.'s plan of feeding, is in the management of the pastures. We take all the more pleasure in recording it, because a different course from his is so common with most farmers, and so injurious to their interests. He divides his pastures so that the stock goes into a fresh lot once in each four days, remaining in the pasture through night and day. In this arrangement he is able to allow about eight days of uninterrupted growth to the grass, so that the roots are strengthened, strike deeper into the soil, and thus sustain the herbage through dry periods. The feed is consequently thick and fresh, and as many cows are put upon it as will prevent a too luxuriant growth; for he does not believe that *rank* feed is good for making milk.

He Plants Southern Corn.

To meet the contingencies of a dry time, he plants Southern corn, beginning about the 10th of May, and continues to plant each week until the first of July. By these frequent plantings, he is able to commence feeding it out about the first of August, and has it fresh and juicy until frosts come. Feeds sparingly at first and increases the quantity as the cows become accustomed to it. Feeds it in the stable twice each day, probably morning and night, as the cows are *always milked in the barn*, although they are in the pasture all night. This fodder corn is grown upon land highly manured, so as to secure a heavy growth that will be juicy when young and tender. This being added to the usual rotation in grazing, the pastures are not reduced, and the cows have more time for rumination and rest. He thinks pure, running water of the highest importance in making milk, and has secured it in each of his pastures. When the fodder corn is exhausted, he feeds green rowen morning and evening, as much as the cows will eat, though they still go to their pastures as usual. Another object in view, in feeding the fodder corn and rowen, is, not to reduce the pastures so much that he cannot keep them in good condition by the use of plaster and wood ashes. He finds no difficulty in keeping the mowing lands in good heart, but some in keeping up a proper fertility in the pastures.

Fall Feeding and Drying the Cows.

When the grass has become brown by frequent frosts in the mowing lots, he turns the cows upon them, but continues to feed liberally in their stalls, on roots, rowen and English hay, and continues to do so as long as they yield a fair flow of milk. When this ceases, and it is time for drying them, he feeds moderately on a poor quality of food, and examines their bags from day to day to see that they are in proper condition. This care he will not leave to any other person, as it is one which demands a *certainty* of attention.

Many of the numerous cases of difficulties in the udder of cows, undoubtedly grow out of inattention in this particular.

How he Avoids Swelled Udder.

Two things are habitually done by many farmers to their cows, which Mr. Ellsworth most carefully avoids doing. One of these is, to feed a cow highly for some days just before she is expected to drop her calf, and the other —which is still more injurious,—to give her meal, or other stimulating food, immediately after she calves! Neither of these should ever be done. For a period of one week before calving, he withholds all food that would tend to make milk fast, watering freely, a little at a time, immediately before and after that event takes place. For twenty-four hours after the calf is dropped, gives nothing but a little dry hay, and no grain until the cow and udder are all right. Washes a swelled bag with *warm*, instead of cold water. Feeds a weak cow with oats, as they stimulate, but do not heat as corn meal does. Allows the cows to go dry nine to eleven weeks, as cow and calf demand that time of rest. Under such circumstances the cows are strong and their calves healthy.

How he Tends and Feeds in Winter.

When the cows are no longer allowed to go to the fields, they are regularly fed twice each twenty-four hours. The first feeding commences as soon as it is sufficiently light in the morning to attend to the work. They are fed on hay a little at a time, and the poorest quality used is given them first. In about two hours they will eat all they care for; but before they are all through, watering them is commenced by turning out as many as can drink at once, while some one stands by them to prevent quarrelling or accidents. They are then returned, and other sets follow until all have drank. The leantos are now all cleaned out, the cows are full and usually lie down and chew their cuds until half past two, P. M., when the same process is gone through with again, and they have nothing more to eat until the next morning. Thus the cow has had two good meals, has drank twice, and has plenty of leisure to convert a portion of what she has taken into the desired product—a new calf, milk or flesh. After the cows come into milk they require a longer time in eating, and he feeds more liberally, giving a cow for some time eight quarts of sliced roots instead of six quarts.

His Cows are always Healthy.

In going through his stalls we remarked that his cows had the appearance of perfect health, and a corresponding vigor. He replied, "My cows are always healthy; I have not lost one for many years, nor had a case of garget or abortion among them, they come in with great regularity, are kind mothers, keep in good flesh and last a long time. I have them drop their calves in February and March. I raise my own cows, and do not begin to call them old until they have reached a dozen years."

We observed that the cows were tied in stanchions and the oxen and calves in chains. Mr. Ellsworth is strongly in favor of feeding roots to his cattle, and imputes much of his success in making milk to their use.

GAMBLING ON THE RACE COURSE.

The leading editorial of the *Turf, Field and Farm* of February 12, commences with the remark:—

> "We have seen man defined as an animal that made bets. . . . In all nations and climes we find him the sole proposer and acceptor of wagers; no matter how rude or polished, savage or civilized, ignorant or learned, all have the same betting proclivities."

The editor then assumes that all the evils which result from gambling are chargeable to "the perversion of this principle, and not to the principle itself," and that as men "cannot be legislated out of their smaller vices," all that the moralist or legislator can do is to "direct it so that as little injury as possible may arise from the gratification of the propensity." The article closes as follows:—

> A very great majority of betters [on the turf] content themselves by the investment of a sum that will not be felt, if lost, while it greatly enhances the pleasure of seeing the race run. As long as men only venture what they can afford to lose, and do not take risks incompatible with the duties they owe to themselves or families, the injury will be very slight, if injury there is. But "plunging" cannot be too strongly reprobated, and those who have the true welfare of the turf at heart should use every endeavor to restrain that spirit that prompts large outlays.

The whole argument is an ingenious and well put defence of betting, without which "the pleasure of seeing the race" would become stale, flat and unprofitable; but it is altogether unsatisfactory to our mind, and we hope it will be so to the managers of agricultural fairs who are solicited to co-operate with the friends of the turf. We believe that gambling, thieving, pool-selling and many other "smaller vices" of poor human nature should be restrained, not merely regulated.

NEW PUBLICATIONS.

Essex Agricultural Society.

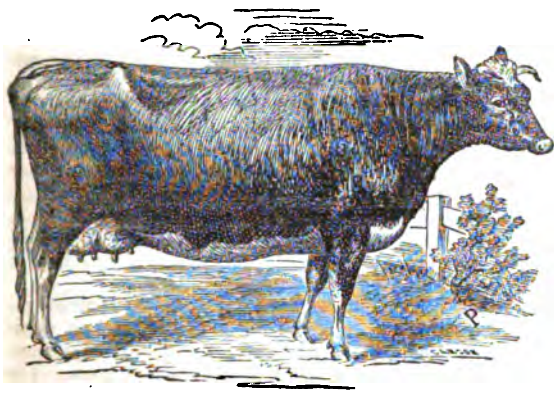
The Transactions of this old Society for the year 1868 are before us in a neat pamphlet of 148 pages. It was established at Cyrus Cummings' tavern in Topsfield, on Monday the 16th day of February, 1816, fifty-three years ago. Timothy Pickering (of excellent memory) was chosen President. The address, last fall, was by Dr. Loring of Salem, and recounts the history of the Society, giving the names of its principal officers, and those in it who have been distinguished in public life, or who have taken an active and influential part in the affairs of the Society. The names of all the orators, or persons who have formally addressed the Society at its annual public meetings, are given, together with some striking remarks, or opinions, expressed by them, which showed that their minds were critical and far-seeing, reaching forward after improvements in the art. For instance: Col. Pickering addressed the Society in 1829, and, in speaking of ploughs said,—"It is not so much the *weight* as the *shape* of a plough which makes it of easier or harder draft; and this depends chiefly on the mould-board." He also urged keeping manure "under cover." Some striking apothegm, full of practical value, like that which we have quoted, is given from nearly all the pages of the orators.

The Transactions contain an unusual number of good reports of committees, and statements of contributors; and this is an excellence which will soon distinguish any agricultural society.

Among these reports is one on Fat Cattle, by Francis Dodge; a long one on Swine, by Ben. Perler Poore; one on Ploughing by Boys under eighteen years, by Joseph How; one on Apples, by T. C. Thurlow; one on Vegetables, by Allen W. Dodge; one on Farms, by Chas. P. Preston. These are followed by a dissertation on Special or Concentrated Fertilizers, by Dr. JAMES R. NICHOLS of Haverhill; on the Agriculture of Essex County, by W. A. DURANT, of Lawrence and one on How to Manage the Hencoop, by GILBERT L. STREETER, of Salem.

This volume is one of the best that has been issued in the State for some years. It bears the marks of the patient industry and practical knowledge of its indefatigable Secretary, Mr. PRESTON.

—Last year's crop of sugar and molasses in Indiana is worth twenty million dollars. It will be larger and more valuable this year.



THE JERSEY COW.

In the account of our visit to the farm of Alvin Adams, Esq., published in the FARMER of Jan. 23, we spoke of his beautiful herd of imported Jersey cattle, and quoted the admirably drawn description of the race from Mr. Allen's book on *American Cattle*. To complete that description we this week borrow from the same source a fine cut of the Jersey cow. Mr. Allen says that, being natives of a milder climate than ours, the Jerseys are more delicate in constitution and require good shelter and food. They will not *rough* it so well as our common cows or some of the English breeds; but they will well repay all the care given them, and should not be neglected. The Jersey is a milking cow, and for nothing else should the race ever be bred. The distinguishing quality for which the Jersey is prized, is the marked richness and deep yellow color of her milk; yet it is moderate in quantity—eight to twelve quarts a day being a good yield in the height of her season—but that wonderderfully rich in cream and butter. It is claimed that one-half or less of the Jersey milk mixed with that of common cows wonderfully improves the color and texture of the butter produced, and it is also asserted by some that the genuine gilt-edged butter of our market reports can be manufactured only from the milk of the Jersey cow. The race was originally from Normandy, France.

For the New England Farmer.

CAN WE GROW WHEAT?

In the monthly FARMER for January, I notice an article with the above caption, also a request for all New England farmers who have been successful wheat growers to speak out. Now I am not a resident of New England, but of Eastern New York, where the soil, climate, &c., are decidedly New Englandish, and as I have for the past fifteen years *succeeded* in raising all the wheat consumed in my own family, and sometimes a little to spare, I will give you my answer to the above query.

I say emphatically, yes, we can grow wheat. It requires no more skill, no richer land, nor more labor to raise an acre of good wheat than one of good corn. In fact, on land ordinarily rich a good crop of wheat can be grown with less manure than an equally good crop of corn.

Wheat has three enemies here at the East, viz.. winter or spring killing, rust and weevil.

The first can be prevented in several ways. First sow wheat on dry land, as water standing on top of the ground and freezing is very destructive to it; and if the land is smooth enough to admit of it, drill it in, so as to get it well into the ground, thereby resisting the action of the frost. It is also advisable to sow early so as to ensure a good growth in the fall, thus affording its own protection through the winter. Another good protection is a light coat of straw spread immediately after sowing. The wheat will come up through it and prevent it from being blown off.

The only known preventive of rust is to sow early, so as to have it mature early, and to sow on high land. In fact, wheat does better on high than low land, whether attacked by the rust or not.

The weevil does not trouble wheat much of late years, especially on high land.

I have practiced two ways of raising winter wheat. First, manure the land and plant to corn, then sow to oats, and as soon as they are harvested plough the land carefully and give it a good top-dressing of fine manure or compost, then roll the wheat in lime, plaster and salt; in the proportion of two bushels of slacked lime, two of plaster, and one-half bushel of fine salt, sow and harrow all in together. If the land is liable to heave, I put on a thin coat of wheat straw as soon as harrowed. The other plan is to plough in a good crop of clover in June, and the middle of August plough again and drill in the wheat, sowing on the lime and plaster in the spring. I usually do this way when I do not have a supply of manure to top-dress with. I always seed my land in wheat.

One thing I have observed, that when I sow my wheat on oat stubble and top dress and seed, I always get a good seed, and the next time the land is ploughed it will give better corn than if seeded down the year before with the oats and no wheat taken from it. I attribute this to the fact that I always get a good seed after wheat when top dressed; whereas I often get very poor catches after oats. A good seed is as good as a coat of manure for the next crop.

I raise a variety called the Soules wheat, a white berry, and for the past eight years the yield has been from fifteen to twenty-four bushels to the acre, averaging 20½ bushels. The yield this year was twenty-two bushels to the acre. The account stands this year as follows, with two acres:—

Ploughing and harrowing	$ 8 00
Seed, four bushels	12.00
20 loads manure, lime, plaster, &c., $30, half to wheat	15.00
Drawing and spreading	10.00
Straw and putting on	4 00
Harvesting, $5, threshing, $6	11 00
Interest and taxes	13.00
Total	$73.00

Seventy-three dollars for forty-four bushels of wheat is equal to $1.66 per bushel. Five bushels and ten pounds of this wheat gave me a barrel of first quality flour, after tolling. At the cost of my wheat my barrel of flour cost me $8.58, and I have eighty pounds of good feed. Now which is the cheapest to buy flour at $15 per barrel or raise it for half that?

I also raised the present season two acres of spring wheat, of the variety called the Tea wheat, which gave 19½ bushels to the acre. It was raised on corn hills, without manure, sowed very early and soaked in brine then rolled in lime, plaster and salt. The cost of raising this was not as much by thirty-three cents per bushel. It will make just as much flour, but not as white as the winter wheat. The bread, however, is preferred by many, as it is more moist and will keep longer than bread from winter wheat. That the farmers of New England can raise their own flour I am as confident as I am that they have their own hills and mountains. J.

Oak Hill, N. Y., Jan., 1869.

For the New England Farmer.

NOTES ON THE STRAWBERRY.

An Essay read before the Concord Farmers' Club, Dec. 3, 1868, by Frederick G. Pratt.

The increasing production of small fruits in Concord, requires a corresponding increase of attention to them as profitable market crops, and any information whereby we can increase those crops should be heartily received. Although it is but three or four years since small fruits began to be raised for market to any extent in Concord, yet *Concord berries* have already a favorable name in the Boston market.

Strawberries are as yet the principal crop, but raspberries and blackberries will soon be grown here in large quantities. The strawberry grows to perfection in Massachusetts, and while we hear large stories of the yield of this fruit in New Jersey and elsewhere at the South and West, the true state of the case is, that when our berries begin to come to market, the Southern fruit cannot be made to pay expenses, and soon stops coming. I have frequently seen New Jersey berries selling for ten or twelve cents a quart, while "natives" were selling more readily for twenty-five or thirty cents. It is not entirely because they get here in bad order, but because berries are not as good naturally when grown on the hot, sandy lands of New Jersey, as they are on the more gravelly soils and in the cooler climate of New England.

The different varieties of strawberries require different soils. Thus the *Hovey*, originating in a heavy, clay soil, has always done best on the clayey lands around Boston. The *Agriculturist*, starting from light, sandy soil, gives its best results from such light land. And so with all varieties, each having some favorite soil, and on such, or similar land, they do best. This is the reason why so many varieties, highly puffed at first, are soon discarded. Some peculiarity in the soil where they originated made them do well there, and thinking they would do as well elsewhere, the originators, in honest faith, scattered them over the land.

One thing all varieties want, and that is manure. At the same time, they are particular as to the *kind* of manure. Green stable manure is almost poison to the *fruit*, though the *vines* may grow thriftily enough. It will answer much better if old and well decomposed; but ashes or some other manure containing a large amount of potash is the special fertilizer for strawberries.

Perhaps as good a preparation of land as could be devised for strawberries, would be, say, thirty or forty loads of stable manure to the acre, plant to corn, and in the fall plough up again, after putting on a heavy dressing of ashes. Set out the strawberry plants early the next spring, the earlier the better, and keep them entirely free from weeds throughout the season. Most growers allow all the runners to grow the first year, and cut out the paths the next spring. My own experience leads me to think it a better way to stop the running as soon as the plants are thick enough; which I think would be one foot apart for the feebler growing varieties, and as far as one foot and a half for the strongest. I know this makes the plants look as if they were not neighbors the first year, but when they come to blossom and fruit the next season they will cover the ground, and the extra size of the berries will well pay for the extra work in thinning out the plants. The Hovey will bear the closest planting of any I have experimented with, as so many of the stools are barren; but, at the same time, with my present experience, I am by no means sure that even this sort is not often injured by allowing the plants to get too thick.

As to the varieties of strawberries, the number is large. Fuller, in his "Small Fruit Culturist," gives the names of 200 sorts. The truly valuable kinds would be counted by dozens only. Of forty or fifty kinds that I have tried or am trying now, there are but four or five that I find profitable for the market, though several are as good or better for home consumption, but have some defect that spoils them for selling.

I commenced with a nameless variety, probably the Virginia Scarlet,—very nice, but small, which was a fatal defect. I then tried Cutter's Seedling, or Bunce. This is better, but is rather soft, and does not hold out its size very well after the third or fourth picking. As long, however, as one carries the berries himself, this sort can be got to market in good order. It will be some time probably before it is entirely discarded. Then I came acros, the Wilson's Albany, which is *the* strawberrys as the Concord is the grape, for the million. It has been much run down by interested persons, but it steadily holds its own in the market, which is the best test for those who grow to sell. It is firm, handsome, carries well, and if properly ripened, really a good fruit. The plant is healthy and hardy in all localities in which I have tried it,—two valuable qualities better developed in this sort than in any other I have tried. No other bears as large crops or hold its size to the last as well. So far it has been my most profitable variety.

The *Agriculturist* promised well at first, yet in profitableness it has not come up to my expectations. The plants grow well, and give the largest stools of any sort I ever saw. They seem a little tender, and die out without any apparent cause in the winter. While they blossom well, and seem to set perfectly, when we come to pick them, though they are large and handsome, they don't seem to fill up the boxes. I am trying them on lighter soil for another year, and if they don't do better there shall probably discard them.

The *Downer's Prolific* is a promising sort, thrifty and hardy; fruit large and firm, though rather acid.

The *Triomphe de Gand*, *Fillmore*, *Jenny Lind*, *Russell's Golden-Seeded* and some others, I have rejected for various reasons.

Of the *Lady of the Lake*, *Brighton Pine*, *Hovey's*, *New Jersey Scarlet* and *Jucunda* I have good sized beds, and all of these, except perhaps the Hovey, are promising. The Hovey looked extremely well the early part of the season, but the last part the plants looked sickly. The leaves blacken up badly, and there does not seem as much life in the plants as in other varieties on either side of it.

Of a dozen new sorts on trial, some are extremely promising, while a greater portion are extremely unpromising.

—Columbus, Texas, will kill and pack 10,000 to 15,000 beeves this year.

For the New England Farmer.

PLOUGHING.—SEEDING.—HARROWING.

WESTMINSTER, VT., FARMERS' CLUB, Jan. 18, 1869.—*Topic*—"Preparation of the soil for the reception of agricultural seed, best kind of seed to be used, and the mode of cultivation until matured."—(Continued from last meeting.)

N. G. Pierce.—Time is not misspent in well preparing ground for seed. For ploughing I agree with the opinion of the club as expressed last week, that green sward should be turned four to five inches deep, ploughing coarse manure under; but I would put *fine* manure on the top. I plough same ground for oats eight or nine inches, leaving the manure between the two layers of earth. I believe the side-hill *the* plough, as it leaves no dead furrows. For a "good catch" of cereal grain or grass seed, we cannot harrow too much. The best variety of corn I think is a 12-rowed "Canada" kind brought into this vicinity by "Peter Mayo." On three-fourths of an acre he obtained sixty bushels. I planted this variety when I went in for a premium a few years ago, and had 132 bushels. and 25 quarts. The next year I raised upon an acre 100 bushels and 20 quarts. Since which I have raised between eighty and ninety, seventy and eighty, and sixty and seventy bushels per acre. S. C. Underwood planted some of my twelve-rowed, side by side with the "Holden" variety which he has kept pure. Mine yielded from ten to fifteen bushels per acre the most, and is earlier.

John McNeil, (on a plain land farm.)—I don't believe four inches deep will do for me. I plough up six inches and then I have earth enough to work well without harrowing up the sod. I put my coarse strawy manure under the sod. I don't know what to do with it when upon the top of the ground all summer, and believe it is poor economy to leave it there. I harrow my ground well. The "rotary harrow," now in use in Maine, does the work better than anything I ever saw. I like the "Holden" corn better than anything I have ever found.

Henry Floyd—(hill farm.) I plough six inches deep, and put my manure upon the top. By so doing I get better corn, grain and grass than my neighbors who turn their manure under. We must hoe corn well; can hoe three times cheaper than twice; and the third hoeing will add ten to fifteen bushels of corn to the acre, as it fills out better. I agree with others as to advantages of thorough ploughing and harrowing.

Capt. Titcomb.—Four inches is deep enough for ploughing green sward. Harrow well to give root and blade a chance to get ahead of weeds. In these days of *sharp* and *long-cornered* hoes there is danger of severing the little roots and spongioles of the corn, so as to weaken the vigor of the stalk. I would also caution against running our cultivators down too deep, for the same reason.

Zenas Lord.—I "top" my corn, as it ripens better. I think I lose nothing in fodder, though a little more labor. In dropping seed corn I take pains to scatter the kernels; hoe twice, and do it right. I plough five to six inches deep, turning manure under. I reject the tips and buts of ears for seed. I get usually sixty bushels to the acre. I farm on a small scale.

Mr. Clay—(hill farmer.) I have been here but a short time; formerly lived in "Orange County." There I always had good corn, though my neighbors did not. I ploughed some seven inches deep, and am doing the same here. I am not quite sure it is the best way. Occasionally I have ploughed a portion of a field, alike in other respects, considerably less in depth, and have thought the crop was better. I have thought one reason why corn did not fill out better was we planted too far apart, so that the pollen missed coming in contact with the silk. I think hoeing twice well—the second, about the usual time of the third hoeing—is sufficient.

Horace Goodhue—(hill farmer.) I plough about four inches deep, turning manure under, and use about one-third of a spoonful of compost in the hill, made of hog and horse manure, with the washing and slops of the house sink well mixed up, carted out upon the field in the fall. Another very excellent compost is hen manure mixed with rich earth, putting a small handful in the hill. I am satisfied that corn needs something to stimulate it in the outset. As to seed corn, the better way is to select it from the field from stalks having two or more ears, trace it up and hang it where it will dry well, as it is apt to hurt in the field or before it is husked, if deferred; I shell off tips and buts. I prefer the hinge harrow, with thirty half-inch steel teeth.

Mr. Farewell—(hill farmer.) I plough my manure under six or eight inches. I believe manure loses one-half of its strength by evaporation when left upon the top of the ground. Last year I planted corn taken from the bin and it came up well. I know of no reason why a portion of the seed ear should be rejected. I once heard of a man who, probably from tradition, had been accustomed to reject the tips of the ears for seed, but his hired man by some misconception of his directions planted all tips, and the best piece of corn they ever had was raised. (Applause.)

D. C. Wright—(meadow farmer.) I have tried all kinds of ploughing; have ploughed in fall with "Michigan Double Plough" very deep; then in spring about one-half as deep not turning up the sods; but I think about four inches, for clover land, turned just as you want to plant, is best, turning manure under. It is very important to put some stimulant into the hill to start the corn. I save hen manure in barrels, and in the spring moisten it with the liquid manure from low places in the yard, then mix in plaster. I roll my seed corn in hot soap and plaster, and know it is highly beneficial. I plant three and one-half feet each way, four stalks in a hill. When I plough for oats I plough as deep as I can. I reject the tips of the ears of seed corn, believing the small kernels produce feeble stalks. I select my seed as recommended by Mr. Goodhue.

N. G. Pierce—I don't believe that cultivating deep or late in the season, even though some roots are severed, is any injury to the corn. In one instance, at least, my crop was nearly doubled by late cultivation, as compared with a portion of the same field where such cultivation was omitted.

Mr. Floyd believed the plan of ploughing in manure was based simply on the practice of our fathers. When placed upon the surface the rains and dews prepared it for the immediate use of the plant, but when buried six inches deep it was of little use to the corn, if to any other crop.

Mr Porter Rice, in reply to the President, who asked how it was that he always kept his work ahead so much better than most of his neighbors, said, "I get up earlier."

Capt. Titcomb alluded to the prevalence of smut in corn, and believed it was caused by a superabundance of manure in immediate contact with the roots, which so far stimulated the circulating fluid as to cause the kernels to become ruptured before the enamel is matured. He also spoke of the Goodrich potatoes as a "complete humbug."

NEW ENGLAND AG'L SOCIETY.

After the acceptance of the charter at the late meeting of this society, the following constitution and by-laws, reported by a committee consisting of Davis and Goodman, of Mass., Peirce, of Me., Smyth, of N. H., Baker, of Vt., Perry, of Vt., and Hyde of Conn., was adopted:—

Art. 1st. The officers of the New England Agricultural Society shall consist of a President, Secretary, Treasurer and also a Vice President, from each State, and nine managers from each of the New England States, all of whom shall constitute the Board of Managers of the Society.

Art. 2. The President, Secretary and Treasurer shall be separately chosen by ballot at the annual meeting of the Society, and at the same time the members from the said New England States, present, respectively shall nominate such Vice Presidents and managers to be voted for by the Society.

Art. 3. The President, Vice President, Secretary and Treasurer shall constitute the Executive Committee, and the vote of a majority of the same or a majority in attendance at a meeting regularly called, shall be necessary to authorize all contracts, expenditures and business in relation to the Society, and such votes shall be regularly entered and recorded, and such records preserved among the archives of the Society.

Art. 4. The Board of managers shall prepare the necessary by-laws for the Society, shall meet at least once in each year at such time and place as they shall appoint and shall prepare the premium list by appointing the necessary committees.

Art. 5. There shall be appointed by the Executive committee annually an officer to be called Superintendent of Fairs, whose duties shall be to personally over-see and direct the erection of the buildings on the Fair ground and otherwise prepare such grounds and carry out the rules and regulations of the Society and of the Executive Committee in relation to said fair, and who shall be paid out of the funds of the Society such sums as the said Executive Committee shall award.

Art. 6. The President, or in case of his absence, either of the Vice Presidents shall upon request of any three of the Executive Committee call a special meeting of such committee, or of the Board of Managers, or of the society.

Art. 7. The Board of Managers may fix the amount of compensation to be paid the Secretary and Treasurer per annum.

Art. 8. The Executive Committee in all other matters subject to the constitution and by-laws shall regulate all the concerns of the Society, during the intervals of its meetings; publish such communications and offer such premiums as they shall think proper; and they shall lay before the Society, at each of its meetings, a statement of their proceedings.

Art. 9. The Secretary shall keep a record of all the votes and proceedings of the Society and of the managers and Executive committee, and shall record such communications as they shall direct.

Art. 10. The Treasurer shall receive all moneys due or payable to the Society, and all donations that may be made to it. He shall from time to time pay out such moneys as he shall have orders for from the Executive committee, and shall annually, and whenever thereto required, render a fair account of all his receipts and payments to the Society or a committee thereof. He shall give bonds for the faithful discharge of his duty, in such sum and with such sureties as the Executive Committee shall direct.

Art. 11. A committee shall be appointed annually by the Executive Committee to audit the Treasurer's accounts, who shall report to the Society: and the same being accepted, shall be entered by the Secretary in his books.

Art. 12. In case of the death, resignation, incapacity or removal of the Secretary or Treasurer, the Executive Committee shall take charge of the official books, papers, and other effects, belonging to the office that may be vacated, and give receipts for the same; which books, papers, &c., they may deliver to some person whom they may appoint to fill the office until the next meeting of the Society, at which time there shall be a new choice.

Art. 13. All the present members of the old New England Agricultural Society shall be members of this Society, and any other person may become an annual member by the payment of two dollars, and a life member by the payment of five dollars.

Art. 14. The Vice President and Managers in each State shall constitute a committee for that State to solicit and receive subscriptions for raising a fund for encouraging the pursuit of Agriculture, under the direction of this Society; and they shall act as Executive Committee for that State for such purposes.

Art. 15. The Governors and Lieutenant Governors of the New England States, shall be admitted honorary members of the Society.

Art. 16. The annual exhibitions of the Society shall be held in the said States or elsewhere as the Executive Committee shall decide.

Art. 17. All the present officers of the New England Agricultural Society shall be the officers of this Society until the next annual meeting, or their successors are appointed.

Art. 18. The annual meeting of the Society shall be held on the first Tuesday of February, of each year, at such place as the Board of Managers may determine, and all meetings shall be called by giving no less than fourteen days notice in one agricultural paper in each State.

Art. 19. This Constitution may be amended by a vote of three-fourths of the members present at any annual meeting.

Art. 20. In case of the resignation or death of any of the Executive Committee the remaining members shall have power to fill the vacancy thus created.

After some debate the fee for life membership was fixed at $5 and for annual membership $2 per year.

The last clause of the resolution, excluding manufacturers and venders of agricultural implements from committees of award on such implements was stricken out.

The President stated that arrangements were in progress looking to the holding of the next Annual Exhibition in Maine.

All rules and resolutions passed by the old Society were adopted by the new, so far as applicable.

The old Society being called to order it was

Voted, That the Secretary be instructed to appropriate the $500 in his hands for the publication of a report, to the publication of the reports of the Fairs in Vermont, Rhode Island and Connecticut; and that he pay the officers with the other $500 received for that purpose from the Rhode Island Society; and that the balance of money in his hands and in the hands of the Treasurer, be paid to the Treasurer of the New England Agricultural Society, this day organized under the charter.

EXTRACTS AND REPLIES.

BITTER MILK.

For several weeks past the milk from our two cows has been very bitter. It has a little more consistency than usual, as we observe in straining. We have recently given them in addition to their usual feed hay and meal, the swill we formerly gave to the hogs and some turnips. Please give any information in your power in relation to the extreme bitterness of the milk. W.

Middleboro', Mass., Jan. 1, 1889.

Remarks.—There is always more or less complaint of *bitter milk* in the winter season. The principal cause, we think, is the want of a place where the temperature *is even*, and just suited to throw up the cream. If the temperature is regularly too low, or if it falls below sixty degrees, a portion of the time, the milk stands too long, and the milk assumes a bitter taste, that is imparted also to the cream. Only a few cellars are suited to the raising of cream in the winter. Where they are not, the better way is to set the pans of milk in some dry, clean, warm closet, in the kitchen, or near a chimney where an even temperature will prevail. If the milk is not affected by any other cause, in such a place we think it would remain sweet until the usual amount of cream has risen. In our own practice we rarely feed turnips to cows from whose milk we are making butter. Perhaps it may be done and not affect the milk to the taste, but we prefer not to run the risk, and feed mangolds, carrots, beets or grain to the milch cows, and let the turnips go to dry stock. There may be other causes for bitter milk, but if so, we do not know what they are.

SHAVINGS OF ASH WOOD AS AN ABSORBENT.

Will it pay a farmer who has a large farm and a large stock of cattle and horses to winter, to draw shavings from the planing mill and turning lathe, one mile for bedding his stock, and also as an absorbent of the liquid voidings from his animals? The shavings are mostly made from ash wood.

West Dover, Vt., Jan. 19, 1869. E. S. C.

Remarks.—Yes, sir, we have no doubt of it. The cattle will lie warmer and easier for the bedding, the shavings will absorb and retain a large amount of valuable material, and if the soil is too compact they will have an excellent *mechanical* influence upon it. Any fine, dry, vegetable matter applied largely to the land, has been found to improve it; but the process is a slow one, unless fermentation is readily induced in it by the droppings of cattle or something else of this nature. We have known an impoverished field of sandy loam thoroughly fertilized by the use of spent tan, frequent ploughings and the bountiful blessings which the atmosphere shed upon it—nothing else being applied. But this was effected through a process of several years, as an experiment. Perhaps it might have been more *economically* restored by the use of active manures. The experiment proves, however, that our poorest lands may be made in some degree fertile by an expenditure of little besides the labor required to keep the surface free from weeds and in a fine and loose condition. The first money cost would be for grass seed, to be grown and ploughed under.

DISEASE AMONG THE PIGS.

Will you or some of your subscribers tell me of the cause and a remedy for a disease among my pigs? They are taken with a swelling of their hips and numbness of their limbs. Some of them are lame all over. Many have been lost in this section by this disease. Some lay it to buckwheat feed, and straw of the same for bedding; but I am confident it is not the case with mine.

J. C. MILLER.

Fort Kent, Aroostook Co., Me., Feb., 1869.

REMARKS.—It is quite clear that your pigs suffer from paralysis, but not so clear what causes it. It is often occasioned, however, from exposure to dampness and cold, especially where pigs are obliged to lie upon damp floors, where cold drafts of air pass up between cracks in the floor upon the wet bodies of the animals. Or sleeping upon wet bedding and exposure to severe cold at the same time, would be quite likely to cause paralysis of the hinder parts. Warm and well-ventilated apartments that are kept dry, a table-spoonful of the flour of sulphur, three times in the course of ten days, and good, nourishing food, are the best prescriptions we can recommend.

SORE TEATS IN COWS.—MANAGEMENT OF LONDON DAIRIES.

In reply to "G. H. K.," Sterling, Mass., Nov. 16, 1868, I beg to give him an old English receipt to cure cow's sore teats. It may be useful to other subscribers to the FARMER. The boilings of pig's feet, ears and faces, after being well salted—and a portion of saltpetre also—for five or six weeks. The following is the mode of preparing it. After the feet are boiled till the meat is quite done, take the boilings and add, in a muslin bag, two or three good handfuls of green mallows, with the roots, and boil till quite tender;. then chop or pound to a pulp. After the boilings are cold, take off all the fat and put into *cold* water, and set it on the stove to *gently* melt, not to boil or even simmer, when all the bits of meat and bone will sink in the water. Then set by to get quite cold. Take off the fat and add to it the pulped mallows, and mix it well together into a salve which will be found very beneficial for cow's sore teats, and as a preventive of cracking, if occasionally used on those which are hard and rough. Speaking of cows, it will not, perhaps, be much out of order to make a little addition to the remarks of Mr. H. Morton, the "city of London cow keeper." Having been acquainted some years ago with a great cow keeper in London, whose milk walk extended over many miles, I learned that he always had in reserve the same quantity of milking cows out at grass, that he had in the stalls, and regularly milked twice a day. As soon as any stall-fed cow began to sink in her milk, she was turned out, and a grass cow brought up into her place. All cows, however, were changed once a month, even if they milked well up to the day of turning out to grass. By thus changing the cows, he was enabled to keep up his daily supply of milk for his customers. His first start was with 170 cows, which number he kept up.

JOHN WHATMORE.

Bridgenorth Farm,
Dunleith, Ill., Jan. 15, 1869.

RAISING WHEAT IN NEW ENGLAND.

Your remarks in the recent number of the FARMER, in relation to raising wheat in this part of the country, have led me to think over my experience in raising wheat for the last thirty years. We first sowed half a bushel of spring wheat on about half an acre of land, and raised eleven bushels of good wheat. The next year we sowed one bushel on some of the best land of our farm, and got a lot of rusty straw and shrivelled grain, from which a man would have to work hard to thresh out enough during the day to make bread sufficient for his supper. A few years later we sowed some more spring wheat with about the same results. In 1853, I remember, I had the wheat fever again, from reading Mr. Henry Poor's articles. I went to Andover, where he then lived, and bought a bushel of his best winter wheat, thinking that it would not rust. It was sowed on land that usually gives eighty bushels of shelled corn to the acre, when it is manured as we did for the wheat. It yielded twenty bushels of wheat. The next year we sowed it and it rusted worse than the spring wheat. About ten years ago, one of our neighbors got some wheat from Dunstable, which it was said would not rust, and the wheat fever began to appear again, but it soon died, or rather rusted out. From my experience I have come to the conclusion that it costs me twice as much to raise my wheat, as it does to raise other crops and buy my wheat.

WM. R. PUTNAM.

Danvers, Mass., Feb. 1, 1869.

FANCY POTATOES.

"Every dog must have his day," is an old adage, and as true of potatoes as dogs. Just now the fever runs high, and the man who is fortunate enough to raise a large crop from a small amount of seed, or succeeds in producing an "extra early" tuber, finds a market for them at any price. "Fast" horses and "fast" potatoes take well. Two years since, in common with others, I "invested" a few dimes in the "Early Goodrich." They did very well. Encouraged to expect a greater yield under more favorable circumstances, I carefully treasured up the product of the first year, selling enough however to my neighbors to realize a little more than my first investment. I planted largely the second year, carefully manuring and cultivating them. The drought came on just when they needed moisture most, and the result was a large crop of "small potatoes," from the size of a buck shot upwards, not reaching however the size of decent respectability in but few cases. From one hill I dug one hundred and seven potatoes, mostly very small. The tubers themselves are hardly eatable. They are soggy and tasteless. They will burn sooner than bake or boil, and require nearly double the time for either process, of any other potato I ever saw; and when "done" you will find a bullet in the middle. This unfortunate result may be owing to the soil, or the manure, or the weather, but this "experience" has quieted my fever for "early potatoes," and I am going back to "first principles." This year I propose to plant the "Jackson White" and the "Jersey Peach Blow," two varieties which have been fully tested and are good. L. C. B.

Essex, Vt., Jan., 1869.

SUGAR MAKING.

I wish to ask you or any of your correspondents, well posted in this branch of business, a few questions on this subject.

1. Has there been any signs discovered so that we can tell, in advance, whether the season will be *good* or *poor*, as we term it?

2. What is the proper name of a substance now found in molasses and sugar, variously called "sugar grit," "sand," "carbonate of lime," "nitre," &c.

3. Does this substance come from the soil, by the way of the *roots*; or from the *air*, by the way of the *leaves*? or is it a chemical product formed in the process of manufacture?

4. Why was there *more* of this sediment last year in a given quantity of molasses than in any previous year?

5. How is it that we have so much of this substance now, and none, or scarcely any, forty years ago? When was this article first discovered?

6. What is the best process for separating the "grit" from molasses?

7. Does the sap come mainly from the soil through the roots, or from the atmosphere through the leaves?

8. What per cent of sweet passes off in steam, in the manufacture of maple sugar?

TIMOTHY WHEELER.

Waterbury Centre, Vt., Feb. 8, 1869.

REMARKS.—1. "In the morning sow thy seed, and in the evening withhold not thy hand: for thou knowest not whether shall prosper, either this or that, or whether they both shall be alike good." Still we have weather-wise and sugar-wise people who are flush with prophecies, but we have not heard from them this season.

2. The proper name of this "sugar grit" is phosphate of lime. See an article in MONTHLY FARMER page 331, volume for 1867, by I. B. Hartwell, Wilkinsonville, Mass. Why the other ingredients of the ash of maple wood, such as potash, sulphur, mineral matters, &c., are not precipitated, as well as the lime, is a question for the chemist.

3. We suppose that this substance comes from the soil. The sugar, we suppose, is elaborated by the leaves and other organs of the tree and deposited in the tree or its roots, as in case of the beet, the year previous.

4 and 5. We doubt whether there was ever less of this grit in sugar than now, and suppose that its apparent increase is owing to the greater care in manufacture and the closer observation which has latterly been given to every process.

6. Mr. W. H. Lyon, of North Craftsbury, Vt., in a communication, MONTHLY FARMER, 1867, page 334, said that by straining the syrup through a flannel strainer all the "grit" will be left in the strainer.

7. We suppose "the *sap* comes mainly from the soil," but that it dissolves and takes up the saccharine matter in its upward course that was deposited the previous year.

8. We suppose that no part of the "sweet" passes off by evaporation.

The pleasant weather of the few past weeks indicates that the time of the flow of sap is near, and these off-hand "suppositions" are appended for the purpose of bringing the subject at once before the unassembled congregation of FARMER readers, thinkers and writers.

CULTURE OF CELERY.

Can you tell me what time West Cambridge market gardeners set out their celery plants, the general course of culture, &c., followed by them? Can it be raised as a second crop? S.

REMARKS.—Celery is propagated by seed. Our practice is to sow it in a hot bed about the middle of March. It may be sown in the open ground but is a long time in coming up. Sowing it in any old box, or large pot, placed in the kitchen, all the plants would be produced required for a medium sized family. When the plants are three or four inches high, prick them out into a soil that is rich and fine; protect them from the sun for two or three days and keep them moist. From the middle of June to first of July, transplant again into a moderately rich soil. Some persons make trenches a foot deep in which to set the plants, but we have succeeded just as well by setting them on a level surface.

When the plants are eight or nine inches high, draw the soil about them a little at frequent hoeings, holding up the leaves at the same time to prevent the earth from getting in between them. This should be continued until the plant has grown large enough, and will blanch the stalks.

Before severe frosts come, the plants must be taken up, roots and all, and set out in a cool cellar in moist sand. They may be placed quite near each other, but the ends of the leaves left out. Sand is much better than the soil they grew in for packing.

COLTS GNAWING CRIBS AND BOARDS.

I have two last spring colts that I am wintering. The youngest was weaned last October. In November, or the first of December, I noticed they had commenced gnawing the edge of their cribs and the wood-work about them. They have gnawed my barnyard fence from one end to the other, and seem to like those parts that are a little decayed or soft. If you or any of the numerous readers of the NEW ENGLAND FARMER can tell me the cause, or what will stop the habit, it will greatly oblige an old subscriber.

JAMES WALKER.

Manchester, N. H., Jan. 30, 1869.

REMARKS.—The gnawing of the crib, boards, or any wood-work, is not only a habit of colts, but of many horses who are well-behaved in other respects. Some one remarks that the high-fed and spirited horse must be in mischief, if not usefully employed. But it is often difficult to tell what causes the colt to use his teeth in this way. It probably arises from different causes, and we should naturally look for them about the mouth. When at about the age of your colts the second teeth begin to push up, the fangs of the first teeth are absorbed, and the teeth finally drop out. Sometimes, however, this process does not go on properly, and what we called *wolf's-teeth* are formed. In all cases, therefore, where the habit of gnawing occurs, the mouth of the colt should be carefully examined by some skilful person, to ascertain whether the cause lies there. The habit may also be contracted by some exposure, such as cold, damp, or wet bedding, want of cleanliness or variety of food, or vermin may be preying upon them. All these points must be looked after, and corrected if they need it. If the habit continues, seek the advice of the persons most competent about you to suggest a remedy.

SCAB IN SHEEP.

My sheep have got the scab so that their wool is all coming off. Please inform me through the Farmer, the best remedy for this disease.

Bradford, Mass., Feb. 2, 1869. James Jetter.

Remarks.—Dipping the sheep in a strong decoction of tobacco, with a little spirits of turpentine occasionally added, after brushing off the scabs with stiff shoe brushes dipped in a suds of tobacco water and soft soap, is recommended by Dr. Randall. But with wool as long as it is at this season, this would be an expensive operation. He also recommends applying the tobacco wash to which one-third, by measure, of wood ashes, as much lard as the lye will dissolve, a small quantity of tar, and about one-eighth of the whole, by measure, of spirits of turpentine. Cut off the wool as far as the skin feels hard to the finger, wash the scab with soap suds rubbed hard with a shoe brush so as to cleanse and break the scab, then rub the tobacco compound upon the part affected. Other preparations are used, such as arsenic, mercurial ointment, corrosive sublimate, &c., which are dangerous remedies. The cause of the scab is said to be an insect, similar to the mange in horses and the itch in men. It increases very rapidly, is very infectious, and produces a dangerous disease. If you cannot obtain the advice and assistance of some neighbor acquainted with the disease, you will do well to procure a copy of *Randall's Practical Sheperd.*

NORWAY OATS.

I was about to inquire through the Farmer, what virtues were possessed by the Norway oats as a farm crop which should merit the high prices asked, or even the confidence of practical farmers, when I noticed in the last issue, an article from "L. C. B." in which he recommends the oats.

The assertions of "L C. B." are not warranted by the crops in this vicinity. My own experience with them is, that forty pounds sown on one hundred and forty-three rods of very rich corn stubble, dressed with superphosphate and other fertilizers, gave me only fifty-three bushels of thirty-two pounds, the heaviest of which weighed thirty and one-fourth pounds per measured bushel; while I raised the past season over two hundred bushels of common oats on four acres of comparatively poor land which never received a dressing of manure of any kind, with three bushels seed per acre, which weighed more by the bushel than the Norways. I seldom fail to raise a hundred bushels of common oats to the acre on ground equal to the said corn stubble.

People in this vicinity have raised Norways side by side with the common oats, and I have yet to learn of an instance of fair and careful trial where the Norways have equalled the common oats. Among some thirty farmers who have raised the Norways, I have heard but three speak well of them as a farm crop. Many of these farmers decline to sow them again except under contract for the crop at a high price.

Sown the same day, they do not mature as early, and do not yield or weigh as much on equal soil as the common oats. The straw being coarse and growing very tall saps the land without rendering an equivalent. Some hundreds of bushels of these oats raised in this vicinity will not average thirty pounds per measured bushel. So far as multiplicity of stalks is concerned, I have counted more stalks from one kernel where sown thin than any brag I have seen of the Norways. I do not consider the recommendations from those interested in the sale of the oats, or the *paid for certificates* of their dupes entitled to any consideration, but prefer to rely on the real *bona fide* facts of pounds as a farm crop. The Norway oat crop of this county has been mostly picked up by Messrs. Smith & Ramsdell at prices ranging from $1.25 to $2.00 per bushel. A. D. Arms.

Montpelier, Vt., Feb. 8, 1869.

CANADA AND THE STATES.

Your States' papers, almost without exception, speak of Canadians as having acted a very unfriendly part during the war. It is not wholly a just idea. You had many friends here whom you ignore on account of a few unfriendly and irritating men. Very many of our papers were your steady friends, but they were never noticed. The others were, and for their sakes you condemn us all. Is this fair?

You blame us for "harboring" your enemies, skedaddlers, &c. Even Senator Morrill lowers himself so far. Was it worse for us to "harbor" a few unarmed skulking Southerners than for you to harbor immense numbers of armed Fenians, *our* foes? We never heard of raiders "picnics" within our lines addressed by prominent Canadians. Our laws regarding refugees do not probably differ from your own.

Many thousands of Canadians enlisted in your armies and fought for you. Thousands died for you. How many men's blood would it take to balance one unfriendly tongue or pen? Apparently it couldn't be done. No States' paper has ever said to my knowledge the first kind word to those of us who mourn their loved ones fallen for your sakes. Not so many of us *spoke* against you as *fought* for you, and yet in almost every States' paper we take up we meet with bitter words of "all that Canadians have said and done during the last few years," or some condescending one speaks of "holding out the olive leaf" to us, miserable sinners. Is this fair? J. G. Field.

Stanstead, Canada, Feb. 5, 1867.

Remarks.—By publishing the foregoing we do not wish to be understood as pleading guilty of having entertained the feelings or expressed the sentiments ascribed to the "States' papers almost without exception." But we do confess to an inability to understand why the Canadians, or the subjects of any foreign power, should have the benefits of our markets at any cheaper rate than our own citizens; or to see the policy of making *treaties* which would not look well when incorporated into general *laws*.

LETTUCE AND CABBAGE.

What is the best kind of lettuce? Is there a kind called the Michigan lettuce that is superior to all others? Have been waiting for the seedsmen to advertise, that we might know where to send for catalogue of seeds. What is the best kind of early cabbage for market gardening, and the best way of cultivating them?

PRIMUS JOHNSON.

Webster, Mass., Jan. 24, 1869.

REMARKS.—We know nothing of the Michigan lettuce. The White Silesia for early, and the common Head Lettuce for ordinary use are the best kinds, on the whole. The seedsmen send catalogues on application.

The Oxheart, Early York and Early Savoy are good kinds of early cabbage. Sow in a hot bed in March, and transplant to a rich warm soil, as soon as it is warm and mellow. Use the hoe or rake almost daily. Ashes, moistened with weak brine, may be worked into the ground two or three times during the season. A little plaster sprinkled into the hills when the plants are being set is advantageous. Go over them early every morning and look for the gray worms that are the great pests of early cabbages. If the weather is dry use the watering pot freely until they begin to head.

WHY BEES SHOULD NOT BE MOVED IN WINTER.

The cold makes their combs very brittle and consequently very likely to break in transportation, especially if they are less than one year old. When they are full of honey and subject to frost they will crack even if not moved, and should be kept quiet until it is warm enough for the bees to repair such cracks, which they will do at the earliest opportunity. After bees have been confined to their hives by reason of the cold they should not be disturbed until they can leave the hive to fly. After it is warm enough for that they may be moved if the combs are sound. The combs are much safer during transportation when the hive is bottom upwards.

F.

Mast Yard, N. H., Feb., 1869.

WHEAT RAISING IN THE CHAMPLAIN VALLEY.

In connection with the article in the FARMER, by Mr. Poor, urging a convention of New England farmers to discuss the matter of wheat growing, I would say that I think every New England farmer should grow wheat enough at least for his own use; by which thousands of dollars annually would be saved to the East that is now sent West for flour. I have sowed wheat every year for the last ten or twelve years, and I get as good flour as the best I can buy. I choose my highest and most windy places; turn over the sod; plant corn, with a good coat of barnyard manure turned under, and manure in the hill, getting from fifty to seventy-five bushels of corn per acre; plough the next fall or as early as possible in the spring, and sow one and a half bushels of screened wheat per acre—(better to soak the wheat over night in a strong brine)—without any more manure, and seed down with half bushel herds grass per acre. My lightest yield of wheat per acre has been twenty bushels, and my heaviest forty, average about thirty bushels. My soil is a rotten slate, and after two such crops as the above I get from two to three tons of hay per acre. I plough from six to ten inches deep and am not afraid of putting the manure too thick.

JACOB FULLER.

South Wallingford, Vt., Feb., 1869.

SWAMP LARCH FOR RAFTERS.

Can swamp larch, sometimes called juniper, be used for rafters in a barn, or would they warp too badly? Would it be better to have the sticks left to season awhile before they are sawed? What is the *best* and *cheapest material* to cover the flat roof of a barn? What work on Farm Buildings would you advise one to consult to obtain an idea of the best modern improvements in barn building?

AN OLD SUBSCRIBER.

Middlesex County, Mass., 1869.

REMARKS.—We have no doubt that larch (hackmatack) rafters would answer very well if they were carefully "stuck up" after they are sawed, as inch boards are usually put up to season.

If the roof is nearly flat, some kind of cement would be best, gravel and tar, or something of the kind. We have heard that common hydraulic cement does well on a flat roof, put on quite thin and repeated several times. Good white pine boards with square edges and the best of shingles are the most economical if wood is used.

A book on Farm Buildings, in which especial attention was given to the subject of barns, was published by Mr. J. H. HAMMOND of this State, in 1852 or 1853. It can probably be found at A. Williams, 100 Washington St., Boston.

EGGS SOLD IN SIX MONTHS FROM BRAHMA FOWLS.

In August, 9 doz.; September, 14½ doz.; October, 22½ doz.; November, 9 doz; December, 26¼ doz.; January, 37½ doz.;—total 118¾ doz.

August 1, had 4 old hens and one pullet, just 5 months old, that had commenced laying; by September 1, 6 or 8 pullets had began to lay; by December 1, about 20 had began to lay. Before January 1, the old hens were all sold, and the pullets, 40 in number, were all laying; but those that commenced in August and September of course did not lay as many eggs as those that had just commenced. The price obtained has averaged 44 cents per dozen. A good many have been used in the family besides those sold.

I find the Brahmas good winter layers, if well cared for. They must not be overfed or they will grow too fat. Mine live mostly on oats and wheat bran, with some corn meal. Have plenty of water and oyster shells, with beef scraps about once a week.

A. W. CHEEVER.

Sheldonville, Mass., Feb., 1869.

WOOL GROWERS, STOCK RAISERS AND DAIRYMEN.

Once and again the editors of the NEW ENGLAND FARMER have urged the wool growers to be awake to their interest in securing needed protection. The wool growers' protection is the grass growers' protection, as wool is but grass and grain. Beef, pork, butter and cheese have the same origin, and consequently the same interest in a just wool tariff that wool growers have. Still there is a feeling among dairymen and stock growers of indifference, if not of hostility, towards the wool growers' interest. How extensive that feeling is I leave every man to judge for himself. Depress wool growing until cattle shall take the place of sheep and all the products of the land will fall in price. Make all grass growers feel they have a common interest in everything that affects any class of grass consumers, and the wool growers and dairymen will be heard as one man, and their just claims will be heeded. F.

Mast Yard, N. H., Jan., 1869.

HUMOR IN A HORSE.

Can you give me a remedy for skin disease or humor in a horse? The horse is in the constant habit of rubbing his head and neck against whatever he can get at and of biting himself.

Centreville, Mass., Feb., 1869. F. Doane.

Remarks.—Are you sure that he is entirely free from vermin? If so, send for your physician to examine him, who will probably prescribe a few doses of some mild purgative. That is the safest and will prove the cheapest course you can take.

CAUSE OF SLABBERING IN HORSES.

My experience has been that either Lobelia or common Smart Weed will produce extreme slabbering; especially the latter plant. A. J. Stow.

Weybridge, Vt., Feb. 6, 1869.

SPRINGFIELD, VT., FARMERS' CLUB.

In consequence, probably, of their comparatively greater isolation, farmers in New England have been much slower in availing themselves of the advantages of association than any other class of our citizens. Mechanics have their Unions, merchants their Boards of Trade, physicians, lawyers, ministers, &c., keep up distinctive organizations, and find both pleasure and profit in stated meetings. Why should not farmers? No class needs union and co-operation more than farmers, and a growing disposition to avail themselves of their advantages we regard as the best index and evidence of agricultural progress. A correspondent furnishes an illustration in point by the following brief history of the Springfield, Vt., Farmers' Club.

This Club was organized seven years since by a few young men who felt the necessity of more thoroughly understanding their business, and of meeting to exchange thoughts and views and endeavoring to improve their minds as the first step towards improving their stock and farms. The members have gradually increased and now number some thirty. The meetings are held on every alternate Monday evening through the winter months, at the members' houses, where essays are read, and a discussion follows on the various questions interesting to the farmer. The influence for good which has grown out of these meetings is very apparent, and is particularly noticeable in the stock of some of its most active members.

Some of the very best flocks of Merino sheep to be found east of the Green Mountains are to be seen in Springfield.

Two years ago the Club appointed a committee to report upon the best breed of "neat stock" for our locality. This committee, with H. M. Arms as chairman, made an elaborate report, giving a decided preference to the Short-horns. This report led to the formation of the "Springfield Thoroughbred Stock Association," consisting of twenty members. At that time there were not a half dozen thoroughbred cattle in town. Now they number more than one hundred fine animals, with the celebrated herd of Burdett Loomis, Windsor Locks, Conn., purchased by H. M. Arms, for the round sum of $10,000.

A GOOD RETURN FROM COWS.

During our recent visit to Amherst to attend the discussions of the annual meeting of the *State Board of Agriculture*, we met and conversed with many persons from various parts of the State. Among others, was a conversation with Mr. J. W. Hagar, of Phillipston, in relation to his manner of feeding milch cows, and the product secured. He has sent us an account of his course which is as follows:—The year ended January 11, 1869. He kept seven cows; kept them eating two hours in the morning and the same at night, including half a peck of Swedes turnips to each, once each day. Watered them twice during the day. After calving, he gave each cow, daily, two quarts of "middlings," until the first of May. On the first of August he commenced feeding corn fodder and continued it until the year was out.

Amount of butter made 1467 pounds which amounted to, ...	$671 86
Milk sold, ...	1 00
Cheese, 160 ℔s, at 15c ℘ ℔, ...	24 00
	$696 86

Average per cow, $99.55.

The milk was skimmed when twelve hours old, and the skim milk fed to the calves, which were fed regularly upon it for three months. He has not stated to us the value of the calves.

IS PORK UNCLEAN?

You have no doubt read the enclosed article entitled "Pork Unclean," as well as hundreds of your readers, it having been extensively circulated by a party lecturing in this vicinity on health, &c.

You, no doubt, with your experience, know if the statement made is true or not. Is it a fact, that every hog has "corruption flowing from his feet like drainage from a sewer?" or is it true that "nothing but man will eat pork," or that "lard is the quintessence of scrofulous extract, &c., &c.?" Do let us know if these named statements are true or false.
A READER.

Medford, Mass., Feb., 1869.

REMARKS.—We do not believe that one-half of the article enclosed to us, about pork, is true. In the first place the writer quotes the old lawgiver, Moses, as his authority that pork is unclean. He reasons upon the supposition that Moses interdicted the use of certain animals because they were unwholesome. Such, in our opinion, was not the principal cause. His intention was to wean the Israelites from their entire dependence upon their animals for food, which is usual among nomad people, and to introduce new wants which only agriculture could supply.

In the second place, the object of this interdiction was, to discourage any friendly intercouse between the Israelites and the idolatrous nations around them, and nothing could be better calculated than this, and other dietetic regulations, to prevent them from joining in the festivities and social entertainments of their neighbors. The Jews abstained from eating animals which their neighbors did eat; and which we eat at this day; and in the same manner, we refrain from various animals, not at all unfit for food, which the Jews did eat and which are eaten in other countries. We do not eat horses, dogs, cats, snails and grasshoppers, all of which are good for food, and are more or less eaten in different countries, although from not being used to them, we should regard their meat, if set on a table, with as much abhorrence as a Jew or Mohammedan could manifest with regard to pork. The great object Moses had in view was, to change the character of the Israelites from that of a nomad or wandering people, to that of an agricultural people, with a fixed home.

In Deuteronomy, xiv., 8, Moses says:—"And the swine, because it divideth the hoof, yet cheweth not the cud, it is unclean unto you: ye shall not eat of their flesh." And he said the same of the *hare* and the *coney* in the preceding verse. This could not have been because either of them were unfit for food. These and other interdictions were intended to make their new country necessary to the Israelites, so as to render it impossible for them to abandon it for any other, or to resume their former mode of life. As an evidence of this, in the 21st verse of the same chapter, Moses says:

> "Ye shall not eat of anything that dieth of itself: thou shalt give it unto the stranger that is within thy gates that he may eat it; or thou mayest sell it unto an alien: for thou art an holy people unto the Lord thy God."

This seems to us decisive proof of the truthfulness of the position which we have taken. Moses was an upright man. If he supposed that the flesh of an animal that "died of itself" was impure and unwholesome, would he give it to the innocent stranger who was a visitor among the people, or sell it to the alien who might be poisoned by it? By no means. Moses was no such double-dealing person.

Again, in speaking of the hog, the writer of the article sent to us, assuming the air of an astute naturalist says:—"Examine the inside of his fore legs, a few inches above his feet, and look at the open sores or issues provided by nature to drain off a part of the vile, scrofulous ichor from his corrupt and filthy body." Has not this delicate writer the same provision on his own legs, and all over his body? If not, his own skin would soon be covered with the "mange, tetter and scurf" which he ascribes to the poor hog. Does he not know that the hog never *sweats*, and that these issues subserve the purposes of perspiration? It would be well for this critic to read the Bible more carefully, and a volume or two on natural history and physiology before he questions the wisdom of God in the creation of His works. In wisdom He made them all—the hog included. When circumstances permit, the hog is a neat animal. None like a dry, clean bed better, and none will keep it cleaner. He has his trichine, it is true; so has the ox his "warbles" and pleuro-pneumonia; the cow, the "cow-pox;" the sheep, the foot-rot, ticks and cutaneous eruptions, but when properly fed and tended all are good as food for man.

We are aware of the opinions which have always prevailed in the East with regard to the use of pork. Large quantities of fat meat of any kind would probably prove unwholesome, and particularly so to persons subject to leprosy and other cutaneous diseases, as the Israelites seem to have been. The warmer the climate, the less need is there of a meat diet; while in a cold one, a larger proportion of flesh and fat as food is best.

It is quite probable that in the East swine were permitted to run at large, as they do at the present day in the cities in our Southern States. There they feed mainly upon all sorts of foul garbage; are kicked about by men and horses, stoned by boys and hunted through the hot sun by dogs; are overfed one day and starved the next, and by these circumstances, and the great variations in temperature to which they are subjected, may contract diseases, and their flesh be unwholesome.

But it is not so among the farmers of New England. Their swine are generally comfortably housed, fed regularly upon wholesome, nutritious food in variety, provided with pure water and salt, and during the summer season are daily supplied with fresh weeds, tender grass, milk, a little grain and uncooked vegetables. They live quietly, grow and fatten rapidly, and at ten or twelve months old furnish the cleanest, sweetest and as wholesome flesh as any with which we are supplied. We know persons who eat fresh pork with as much comfort as they can the finest mutton chop or beef steak; and we have never known any to be injured by its use, who ate in the moderation that all such concentrated food should be taken. The truth of the matter is that fresh pork is so delicious that persons eat too heartily of it, get sick, and charge the consequences to the unwholesomeness of the food!

EFFECTS OF FERTILITY.

Though wheat is wheat, hay is hay, potatoes are potatoes, apples are apples, it is well known that there is a great difference in the qualities of these several articles of the same varieties grown on different soils and in different years. What influence on quality have the different soils on which they grow, or the same soils when differently manured? In a discussion of this question a correspondent of the *Rural New Yorker* alludes to an analysis of two parcels of oat straw grown on the same farm, in the same year, from the same seed, but one on bog and one on dry land, which showed a proportion of 1.90 per cent. of silica in that from the bog, and 3 42 per cent. in that from the dry land; wheat grown in different places varies from 18 to 16 per cent. in gluten; grass from land to which salt has been applied was found on analysis, by C. W. Johnson, to contain a larger proportion of soda than other grass in the same field to which salt has not been applied. The writer then says:—

> A few years ago, when applying a top dressing of fine raw bones to a meadow, which had run into blue grass, the bones were carried to the field in bags, early in spring, and these bags dumped upon the ground at equal distances, so the piles could be taken into baskets and sown evenly over the field. These piles were not gathered up clean, and a larger proportion was left than was sown over other parts of the field; and the grass on these spots grew taller and of a deeper, darker green. These were cut by themselves and bound in bundles to preserve them separate. In winter, when feeding the hay from this field—which was a fair crop and saved in good order—the cattle and horses were occasionally given some of these bundles, and they would leave the hay and devour these as greedily as if they had been oats. They readily knew the difference, although of the same kind of hay and grown in the same field. The larger amount of phosphate of lime and nitrogenous matter applied to these spots produced a more perfect development of these qualities in the grass, and probably gave the hay a finer odor, and, therefore, a better relish. The animals seemed to distinguish the difference the moment it was brought within smelling range.
>
> We have also tried the experiment of salting spots here and there in the pasture, and dressing others with bones or superphosphate some weeks before cattle were turned out in spring, and have uniformly found that they delighted to feed on these spots.

These facts may suggest a reason for the diverse opinions of farmers on different soils as to the necessity of giving salt to stock, and suggest a cause for the "unnatural appetite" of stock on some farms for bones, boards, &c. Every cook knows the difference between the quality of eggs from half-starved and well fed hens; and why should there not be a difference in the quality as well as quantity of vegetation on poor, exhausted land and on that in which all the elements of fertility exist in abundance? The subject also suggests inquiries in relation to the effect of barn-yard and special manures which we leave to the consideration of farmers, with the remark that there is much in our soils, our crops, and our manures to think of and study into.

Washington County, Vt.—The farmers of this county met at Montpelier, Feb. 6, and organized an Agricultural Society. The *Journal* says its most sanguine hopes, both in respect to numbers present and the degree of earnest purpose manifested, were far exceeded. A constitution and by-laws were adopted. The following officers were elected:—

President—Levi Boutwell.
Vice President—D. B. Wheelock.
Secretary—Austin D. Arms.
Treasurer—Clark King.
Auditor—Don P. Carpenter.

A Board of Directors consisting of one in each town in the county was also elected.

NEW PUBLICATIONS.

Entomology.

Notwithstanding the immense loss which the farmers of this country annually sustain from the depredations of insects upon their crops, little of a practical or popular character has been published on their history or habits until within a comparatively few years past. Books enough on entomology it is true have been issued, but they have generally been written by that intensely learned class who believe that "the man of science who follows his studies into their practical application is false to his calling." But this literary pedantry is giving place to broader views, and learned men are now willing to aid the practical man by their theoretical knowledge. As evidence of this we take pleasure in calling attention to two magazines devoted to entomology, both of which are conducted by scientific men, and both of which avoid or explain technical terms, are fully illustrated, and designed for the common reader.

The first is *The American Naturalist*, published monthly at Salem, Mass., at $3 per year, by the Peabody Institute; the other is *The American Entomologist*, published at St. Louis, Mo., by R. P. Studley, & Co. at $1 per year. They are both well printed, and either we presume would send a specimen to any one who wishes to see a number, on the receipt of one-twelfth the subscription price. We recommend both to farmers who wish to be better posted on the history of insects injurious to vegetation or of those whose habits render them beneficial to the farmer.

PRACTICAL FLORICULTURE; a Guide to the successful Cultivation of Florists's Plants, for the Amateur and Professional Florist. By Peter Henderson, Author of "Gardening for Profit." Bergen City, N. J. Illustrated. New York: Orange Judd & Co., 1869. Boston: A. Williams & Co. Price $1.50, 249 pages.

The taste for flowers and the occasions for their use increase with the wealth of communities. Such is the demand for flowers in this country that Mr. Henderson believes that a frugal man with a knowledge of the business and $1000 capital may safely start the greenhouse business wherever there is a town of 10,000 inhabitants of average intelligence and culture, with less chances of failure than in the nursery or vegetable business. This volume is intended for the amateur who superintends or does the work of his own garden or greenhouse, and for the unskilled florist in country towns who has no one to consult with or to copy from. And we think the work is well adapted to its purpose. The style is easy and familiar, the illustrations fresh and well drawn, and altogether it is an attractive book.

THE AMERICAN GARDENER'S ASSISTANT, in Three Parts, containing complete practical Directions for the Cultivation of Vegetables, Flowers, Fruit Trees and Grape Vines. By Thomas Bridgeman, Gardener, Seedsman and Florist. New Edition, Revised, Enlarged and Illustrated by S. Edwards Todd. New York: William Wood & Co. 1868. Boston: Lee & Shepard.

Something over thirty years ago Mr. Bridgman published his "Young Gardener's Assistant," which, being a practical work, became quite popular. But as there have been great changes and improvements in the business of gardening since that time a change and improvement in books upon the subject are also required. From a hasty examination of this volume we think the reviser has done his work well. We must, however, object to the arrangement of the volume into three parts, with separate paging, and with the indexes of the first and second parts in the body of the book, where they are not so readily found. The illustrations are also quite ordinary.

THE AMERICAN FRUIT CULTURIST containing practical Directions for the Propagation and Culture of Fruit Trees in the Nursery, Orchard, and Garden. With Descriptions of the Principal American and Foreign Varieties cultivated in the United States. By John J. Thomas. Illustrated with Four Hundred and Eighty Accurate Figures. New York: W. Wood & Co. 1868. Boston: Lee & Shepard.

More than twenty years ago we were much aided in our work with fruit trees by the first edition of Mr. Thomas' book, and we then formed a high opinion of him as a practical and reliable writer. The present edition has been newly arranged, and most of it re-written, and embraces the results of the rapid progress made in fruit culture since the first edition was written. It has full indexes, and a brief monthly calendar of work in the nursery orchard and fruit garden.

For the New England Farmer.

WINDSOR CO., VT., FARMERS' CLUB,

AT ROCHESTER.

In accordance with the announcement for the series of winter meetings, the Windsor County Farmers' Club held its third session at this place on the afternoon and evening of the 3d inst. Though the day was stormy, about sixty gentlemen,—some of the number having come five or six miles through the driving snow,—met in the Town Hall at 2 P. M.

Hon. W. W. Williams of Rochester, was chosen President, and Hon. Crosby Miller of Pomfret, Secretary.

The first subject for discussion was,

Reclaiming Worn-out Pasture Lands.

Rev. V. M. Hubbard of this town opened the discussion in a manner which proved him to be as well versed in the principles of sound and progressive agriculture as he is known to be in matters pertaining more particularly to his own profession. He asserted the importance of the subject, as the production of grass lies at the foundation of all farm economy. Without grass we cannot keep cattle; without cattle we can have no manure; with no manure no profitable farming. Most of the pastures in White River valley are now under the dominion of brakes and bushes.

He would first divide large pastures into small lots of ten or twelve acres each. In these put different kinds of stock—horses, cattle, sheep—and then change them from one lot to another. Next attack the brakes and bushes with the scythe,—the great enemy of these noxious usurpers of the soil. The brakes will make good forage for sheep in winter, or good bedding for horses and cattle; or, if not needed for these purposes, excellent compost. When the pasture lots have been carefully mowed, the sheep will generally take care of the young growth that springs up.

Next, sow salt when the brakes have been exterminated. Thus the productiveness of the pasture will be increased one-third and many times one-half. Better grasses will come in, and our lands will keep twice the present number of cattle.

Mr. H. strongly urged upon our farmers the importance of keeping sheep, though the wool alone at present prices will not pay; but they will enrich every rood of land they travel over.

Next, put on fertilizers, such as can be bought or made on the farm. The country cannot be poor if its pastures are rich. Give the sheep grass and they will give you back the money.

Again, sheep will give us the best and cheapest kind of food, and also in the greatest amount, for the value of the food we feed to them.

This method of fencing and mowing and cropping and manuring a pasture involves labor, and so do all good things in this world. We complain of the small returns from our lands, but the wonder is that they produce as much as they do, for we take from them and give nothing in return.

The discussion was continued by interesting and profitable remarks from Dr. Huntington, Mr. Harvey, Mr. Martin, Hon. W. W. Williams, General Cushman, Mr. Rodgers and others, all making valuable and practicable suggestions, for which I should not dare to ask room in your columns.

Hon. Mr. Williams then introduced the subject of

Wheat Culture.

He remarked that Rochester and its immediate vicinity pays annually $20,000 for flour made from western wheat. Rochester once exported wheat to the surrounding towns. He urged farmers to cultivate this crop. He would prepare the soil well, and manure with sheep manure, and sow as early in the spring as possible.

Mr. Harvey.—Rochester farmers at present pay annual tribute to western farmers. The West feeds us with bread, and we are at the mercy of speculators and western wheat growers. Our remedy is to raise more wheat ourselves, in spite of the difficulties of weevil and rust. He advises: 1. To select good seed,—good in variety and healthy in quality. Diseased seed will produce diseased plants, as in the animal kingdom, sickly germs will produce enfeebled animals. 2. Feed the wheat with such food (manure) as its nature demands, on the same principle you would feed animals. Wheat should not be cut too soon. If the straw is sound and healthy, it should stand till the berry is quite hard, else it will not be plump. Would use ashes; inferred their value from experience on new land (burnt.) Lime and superphosphate should be used on some lands.

Mr. Mathews gave us much encouragement by detailing his experience in wheat raising. He has always raised all his family consumed, and so did his father on the same farm before him. He gets about twenty bushels per acre.

Mr. Wellington would put the wheat in as early as possible in the spring, that it may mature before the weevil attacks it.

Gen. Cushman thought we should raise wheat for our own bread, and then as many oats would be produced as we now raise, with little or no wheat. More profitable to raise wheat at twenty bushels per acre than oats at fifty bushels per acre.

There was general regret that the afternoon was too short to finish a discussion which all felt had been no less interesting than profitable, as it was believed that as a result of this meeting the production of wheat in Rochester will be materially increased.

Though the snow continued to fall during the evening, the hall was filled with ladies and gentlemen to listen to an address by Dr. Henry Boynton of Woodstock, upon

The Condition and Duties of Farmers.

The Doctor contrasted the effects of the two elements of Conservatism and Progress in human affairs, and stated that though there may be no more men among farmers than among men of other occupations who belong to the class of ultra conservatives, yet it must be confessed that we are not generally ready to give a willing ear to the teachings of science as applied to our calling. Men outside of our ranks are in the habit of looking upon the employment of farmers as having a tendency to dwarf and belittle a man, and hence farmers themselves have been regarded as not quite on the same social level as men in other branches of business. "Only a farmer" is an expression of marked significance, as indicating the relative position of the farmer. Though very largely in the majority, farmers have but limited political influence, while their practical knowledge of all matters touching their interests is much needed in State and National legislation.

The first duty of the farmer is to himself. He must respect himself and respect his calling; thus making himself worthy the regard of all other men. He should practice a more intelligent economy in his business and household arrangements. He must invest the profits of his farm in his business and not in government bonds.

Farmers should avail themselves of the power and advantages of associated action. They are proverbially unsocial. When men live in isolated conditions, they drift back towards barbarism. They should form clubs in every town and village. Every meeting, however small, would be attended with good results. Farmers should do all in their power to lighten the burdens of their wives and daughters.

When they will rightfully discharge these duties, farmers will assume their rightful position in community, and the expression "only a farmer," will become obsolete.

At the close of the address a Farmers' and Mechanics' Club was formed, to hold its first meeting Monday evening, Feb. 15.

The exercises of the evening were enlivened by some excellent music by the "Rochester Glee Club," under the direction of Mr. G. H. Cooper. The occasion was highly enjoyed by all, and it is hoped it will be succeeded by many similar meetings. APOLLONIUS.

Rochester, Vt., Feb. 4, 1869.

PERCHERON HORSES.

Mr. W. Wilkinson, an English farmer who visited France in 1855, believing there was no better farm horses in the world than the English, appears to have been much pleased with a class of horses he saw in Paris. In an article in the *Journal of the Royal Agricultural Society*, he thus speaks of the Percheron horses:—

"These horses, walking so nimbly with great loads of stone, were not so fat as our own favorites, but they seemed to me to be doing twice the work. Although leaner, they bore the strictest scrutiny; the more I saw of them the more I admired them. Meeting Mr. Jonas Webb I called his attention to them. He said he had never seen such before; he had observed a horse taking into the show yard an immense load of provender, that astonished him beyond measure; he had resolved to try to buy him, but he lost sight of him that day and never saw him afterwards."

Mr. D. obtained a stallion which he called "Napoleon," of which he says:—

"He has been at work on my farm ever since, almost always with mares. I have never had so good, quiet, active, and powerful a horse before. He is unlike our English cart-horses, for with great size (16½ hands high) and immense substance, he shows a dash of blood. He has an Arabian head, not small, but of fine character, well proportioned to his size. The neck is very muscular and well turned, the shoulders large, very deep, without lumps on the sides, and oblique,—such a shape as would not be objected to for a riding horse; the bosom open, the fore legs magnificent and very short, with great bone, hard sinews, and little hair upon them. His feet are perfect in shape, and perfectly sound in work; his back short, rather dipped, round-shaped ribs, large loins, rather plain, drooping hind-quarters, very large thighs, low down, and tightly joined together with prodigiously powerful clean hocks, and very short hind legs, well under him. We never have had a difficulty with the engine or thrasher or with anything in the mud, that "Nap" could not extricate us from. His stock are as good and kind as possible. It is a saying with the men, that Nap's colts need no breaking. My mares are small and active; the stock are considerably larger than the dams, but so cleanly, that as foals they look more like carriage horses."

Late Swarming of Bees.—Very strong stocks, which have thrown off no early colonies or but one, sometimes divide again very late in the season, and, unless it be a very favorable one for the accumulation of stores, the colony will winter-kill for the lack of food. To prevent these late flights sufficient room for all to work should be furnished and the necessary air supplied to keep them from sweltering and becoming uneasy because of restricted space and want of adequate ventilation. They should be aided, too, if necessary, in the expulsion of their parasite enemies, thus relieving them from a species of irritation highly prejudicial to their well-being by rendering them dissatisfied with their old home.—*Rural New Yorker.*

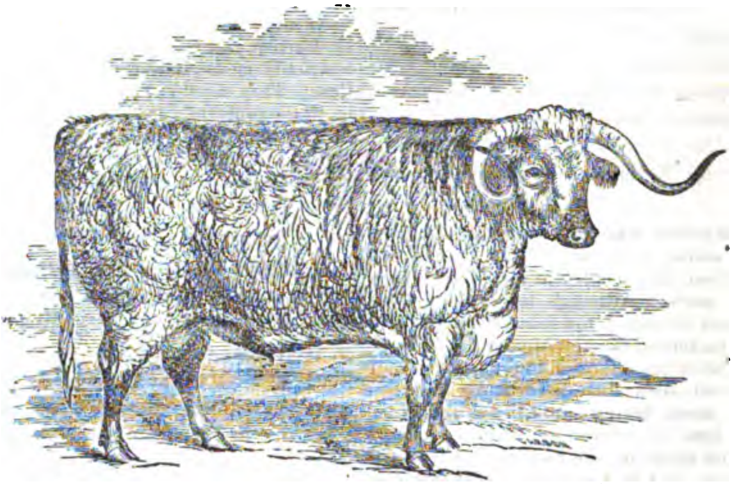
CULTIVATION OF PEACHES.

At a meeting of the Illinois State Horticultural Society, Dec. 15, Mr. B. Pullen read an essay upon the culture of peach trees, from which, as reported by the *Western Rural*, we make the following extract, which we think as applicable to Massachusetts as to Illinois:—

There can be but one opinion in reference to the importance of thorough cultivation up to a period of four years. After this, much diversity of opinion exists; some recommending a continuation of the practice, others partial cultivation and still others none at all. I have given each of these methods fair trial, and am satisfied with none but good, clean cultivation throughout the season of natural growth. Frequent stirring of the soil to the depth of three or four inches (and I would not advise a greater depth), keeps up the vigor of the trees, delays the formation of fruit buds until the proper season arrives, and acts, to some extent, as an insurance on the crop for the succeeding year.

In the section from which I write, (Southern Illinois) scarcely a season passes without our being visited with severe and continuous droughts in the months of August and September. Uncultivated orchards are at once checked in their growth, premature formation of fruit buds follow, with the falling of the leaves; the droughts are followed by copious rains, and pleasant weather. The result is the swelling of the fruit buds—and by failing to cultivate, we simply in this case, offer a premium for the destruction of our fruit crops by the winter cold.

I have an objection to the second practice, which I have termed partial cultivation, reference being had to the system, almost universally adopted, of cultivating in the early part of the season. While this is very far in advance of no cultivation, yet I feel that it is subject to the same objections, only not to the same extent. Careful cultivation secures to us trees of good constitution, full of life and vigor, while the fruit buds will inherit the same vigor, and both are better prepared to withstand the attacks of their enemies, whether they come from disease, summer drought, winter's blast or from the more puerile, yet none the less destructive enemy, insects.



THE ENGLISH LONG-HORNS.

So much is said now-a-days of the Short-horns, and their portraits are so frequently seen in agricultural papers, that we have thought that a brief description and an excellent picture of a race of cattle very different in many respects from the Durham, will be acceptable to our readers on the principle that variety is the spice of life.

It appears from Mr. Allen's remarks upon the history of this race in his *American Cattle*, that its origin is a disputed point, but he says that they have been known from time immemorial in the north-west counties of England and in Ireland. They have long been distinguished from the home-breeds of other counties by a disproportionate and frequently unbecoming length of horn. In the old breed this horn frequently projected nearly horizontal on either side, but as the cattle were improved, the horn assumed other directions; it hung down so that the animal could scarcely graze, or it curved so as to threaten to meet before the muzzle, and so also as to prevent the beast from grazing; or immediately under the jaw, and so to lock the lower jaw; or the points presented themselves against the bones of the nose and face, threatening to perforate them. In proportion as the breed became improved, the horns lengthened, and they are characteristically distinguished by the name of "The Long-horns."

Considerable attention was given to the improvement of this race by Mr. Bakewell and others, and in 1791 bulls were sold from $760 to $1250, and cows from $446 to $1365 each. But at the present time other breeds seem to be more popular in England than the old Long-horns.

Mr. Allen thinks that he saw in his boyhood distinctive marks of this race among the "native" cattle of New England, and says that some were imported into Kentucky about 1817, but they were not received with much favor and the Short-horns soon overshadowed them. He thinks he also saw a few in Ohio in 1821, but of which he can now find no other trace than the recollection of the old people of the neighborhood that one of the rich old settlers there once had some "imported" cattle.

Our cut, copied by permission from the *American Cattle*, represents a fat Long-horn ox. They feed well, and kindly. They *prove well*, and the quality of the flesh is fair, but not superior to that of other breeds, though they have many advocates in England.

As a dairy cow the Long-horn ranks high and is extensively used in some of the dairy counties of England.

On account of the long horns and somewhat depressed back this race is not a favorite as a working ox.

For the New England Farmer.

STOCK BREEDING AND WOOD GROWING.

The following abstract of the discussion of the Springfield, Vt., Farmers' Club, at its last meeting at the house of their Treasurer, D. O. Gill, President L. G. Cutler, in the chair, has been kindly furnished for our columns.

C. Horace Hubbard, Agricultural Editor of the *Record and Farmer*, opened the discussion. He spoke at length of the principles of breeding. He thought it unwise to use any grade male for breeding, no matter how fine the animal, as grades are incapable of begetting their equal upon females of inferior blood to themselves. He would always breed up, not down, having the male a thoroughbred.

Mr. H. M. Arms concurred in the remarks of Mr. Hubbard, and gave an interesting account of his method of breeding Short-horns. He believed good care and feeding essential to good breeding. Would never expose an animal in poor condition. Both parents should be strong and vigorous.

A. G. Gill said in order to breed for labor or fleetness, the sire should be a laboring animal, or at least have a plenty of vigorous exercise.

Mr. R. Colburn suggested that by drying off cows prematurely, in order to increase their condition before breeding them, in time their milk producing qualities would be injured.

J. R. Walker spoke of producing the different sexes with some degree of certainty. When the female was coupled in the first of her heat, the offspring would be likely to be a female, but when coupled in the last the progeny would oftener be male.

D. A. Gill, Esq., spoke of the influence of imagination upon the female at the time of coupling. His father had two bay mares, which were coupled with a bay sire, all of bay ancestors. Both colts had white legs, white noses, each a blear eye, and one of them a white ring around the body. At the time of coupling, there was running in the highway, and near his house, a sorry gelding, belonging to a neighbor, marked with a white nose, white legs, a blear eye and a white ring around the body.

Henry Safford said Vermont breeders excelled in raising horses and sheep. He thought it ill advised to use mares with heaves or blemishes for breeding, as the bad qualities were more apt to be transmitted to the offspring than the good ones. The Vermont Merino sheep, he said, was no humbug. Although they have been sold at prices entirely beyond their value, he considered them good property at their true value. By caring for every want, and judiciously coupling through many years, they have been brought to a very high standard of excellence, and they would continue to be sought by more careless breeders to give tone and energy to their neglected flocks.

A short essay was read by J. R. Walker on "Wood as a Crop." He believed that trees could be profitably grown as a crop, and cited an instance in town where $50 worth per acre had been grown in sixteen years. He had collected the statistics of the town, numbering about 3000 inhabitants, and found that in wood and ties about 9000 cords are used annually. In sawed lumber the town is now using at the rate of 2,064,000 feet per annum. Ellis, Britton & Eaton use for manufacturing cabs 750,000 feet. To furnish all this wood and timber would require 235 acres at 50 cords per acre. Should the present rate of consumption continue, and the whole amount be drawn from Springfield, the whole present supply would be exhausted in 14 years. Hence he argued that woodland should be fenced and protected, and trees grown upon the rough and poor pasture lands. As an investment for the next 50 years, he believed woodland would be a profitable one, and young growing timber a better legacy to leave to our children, than bank stock netting 10 per cent. J. R. W.

Springfield, Vt., Feb. 8, 1869.

For the New England Farmer.

EAST VIRGINIA.

I have for two years read your paper with much satisfaction, directed to me at Charlestown, Jefferson County, West Virginia. As I have removed, please change direction of of paper to Matthews Court House, Hicks' Wharf, Virginia.

Many persons are writing to me, making inquiries as to lands in this section, more than I can answer. They inquire, first as to soil, health, price, timber, stone, fish, oysters, &c. Next, they ask, would emigrants be well received, and inquire about labor, and a thousand other things. I wish to say I am no land buyer, land seller, or land agent, and must caution the public that all said by such interested persons must be taken with many grains of allowance.

As to the quality of sand, the soil is generally light and sandy, and much of it requires draining, on the low grounds of some of the rivers, or rather the estuaries that run back from the ocean a few miles, generally navagable. The soil is good, very good. The low grounds in the vicinity of salt water are more healthy, probably, than any part of New England. Back from the water, chills in autumn may be expected, either by those acclimated or not acclimated. Timber is pine, oak, gum, chestnut, hickory, and on land thrown out of cultivation, of which there are large quantities, a dense growth of pine exclusively. There are no stones at all. Fruit trees grow much more vigorously than even in the rich lands of the valleys of Virginia, such as apples, pears, peaches, figs, quince, &c. Little attention, however, is paid to fruit cultivation, but it might be exceeding profitable. Any respectable settler would be warmly received, who will labor, as the freedmen will not work with any regularity, and no dependence can be placed on them as hirelings. Otherwise their conduct is very good.

Having taken no pains to inform myself, I can give little information as to prices of farms. A neighbor offers a farms of some 130 acres, very good house, immediately on East River, with plenty of wood, and within one mile of steamboat landing, by land or water; the oyster shore would pay at least, I judge, $1000 per year; fishing, crabs, &c. to your heart's content; certainly healthy location, at $5000. Another, adjoining, 300 acres, splendid oyster shore, for $10,000. Another, immediately on the bay, splendid water view, fine improvements, between 200 and 300 acres, for $8000 Another of 100 acres, with steamboat wharf on premises, trifling improvements, for $4000. There are plenty of chances to buy land, and with a reasonable capital plenty of chances to make money. Without capital would advise no one to think of emigrating to East Virginia. Samuel Clark.

Matthews C. H., E. Va., Jan., 1869.

For the New England Farmer.

SMALL FRUITS.

I was pleased with an editorial in the Farmer a few weeks ago, upon raising small fruits. I think far too little attention is paid to that branch of gardening. Perhaps no fruit is more healthful or more easily raised than currants, and yet many farmers have scarcely a currant bush on their farms. For several years past the currant-worm has been very destructive in various parts of the country. In this region, the fruit and nearly all the bushes were destroyed two years ago. For a time it seemed as if currants were doomed, but a remedy has been found, and those who were fortunate enough to keep a few bushes alive, can cultivate them with a good prospect of success.

The root of White Hellebore, (*Veratrum Viride*,) powdered and sprinkled on the leaves, from a common pepper-box, will destroy the vermin, without injury to the fruit.

I had a few currant bushes last spring, which I had preserved from the ravages of the enemy. They started to grow finely, but soon the worms made their appearance. I went to the druggist and purchased a small quantity of Hellebore, and commenced powdering the leaves of my currant bushes, and the worms disappeared almost as soon as I left. I watched them carefully, but found no trouble with them afterwards. Whenever a leaf showed signs of a *raid*, I gave another dose of medicine. My currants ripened beautifully.

I intend to set out a considerable number of slips next spring. I consider the Cherry and White Grape varieties good enough, and shall cultivate them until I find some better kinds.

Black currants are also worthy of cultivation. The Black Naples is a fine variety, and very productive. At first it is unpleasant to some people, but it makes a fine jelly, and is a profitable crop to cultivate.

I hope others will take up the subject, and that many will be stimulated to raise more of this valuable, healthy fruit. Granite.

Bloomfield, C. W., 1869.

For the New England Farmer.

SOUTHDOWNS.

According to English writers there has existed from time immemorial a breed of sheep curiously marked with black faces and legs, while their bodies were covered with white wool. They took the name from that of the section of England where they were kept—the South Downs. They are reported as having been originally a hardy active sheep, with rather light quarters, thin fleece and well adapted to travel about after the somewhat scant supply furnished by the pastures they then occupied; but with the introduction of the system of feeding large crops of turnips upon the ground, with other nourishing food, and with more care in selecting the breeding stock, these sheep gradually changed in form, becoming broader in the back, shorter in the legs, with a better development of all the valuable parts, including the fleece.

The Southdowns have been introduced into this country by various importers from the flocks of Webb, Ellman, and other English breeders, and in the hands of J. C. Taylor, Thorne, and others have fully sustained their reputation as a hardy, quiet, prolific race, yielding a good fleece of wool adapted to a variety of clothing, and producing mutton of superior excellence.

In New England there are several flocks that are so well cared for that they are in no way likely to deteriorate. In Vermont, A. Bemis & Sons, East Burke, have a flock numbering about one hundred that comprise some premium animals and are very uniform in appearance. H. G. White, South Framingham, Mass., has a flock of good repute, and near Newport, R. I., is the flock of Thomas B. Buffum, Esq. This flock I have recently visited. It numbers sixty ewes, thirty-four lambs, eighteen bucks. On examining this flock one is quickly impressed with their uniformity, especially in the flock of breeding ewes. Among ordinary farmers the high condition of the ewes would excite apprehensions of misfortune in breeding, but Mr. B. entertains the same opinions as is held by other successful breeders that there are more animals injured by leanness than by fatness.

His objects in breeding are not only to retain the present excellencies of form, but to increase the wool in thickness on all parts of the body, and in extent around the face and upon the legs and lower parts of the body. The buck used the present year has a light brown face and legs. It is evident that if breeders were so disposed they could in a few years radically change the complexion of these parts. With the darkest style, it is true the wool nearest the face has a dark color, but this breed has so long been distinguished in some degree by its color, that breeders would do well to adopt a standard of excellence towards which they will aim.

The bucks, being of different ages, are not quite as even in size, but they manifest the good quality of improving with age in length, thickness, style and weight. This flock is supposed to have been the first started on the island, and so well have they done that they are now found in all parts of it and in many places on the adjoining main land.

A. T. Peckham, South Portsmouth, R. I., has a flock from which he has killed several that dressed from sixty to eighty-three pounds of meat, which was sent to New York market where it was esteemed highly and sold at twenty cents a pound.

W. L. Sissons, Portsmouth, R. I., has a very even lot of fifteen ewes, and tells me that eight out of ten have twin lambs, and he had one lamb that dressed one hundred and eight pounds when less than a year old. It had an abundance of food and was a cosset. He has a flock of twenty-five lambs about ten months old, all of which are fine animals.

These breeders are quite unanimous in the belief that these sheep should not breed before they are two years old. The flock could be increased more rapidly if allowed to breed younger, but it would not only be an injury to the ewe, but the lambs from young ewes sometimes lack proper nourishment.

Mr. Buffum has done a good work for the country in devoting his attention to developing the good qualities of this breed of sheep, near a large city, where land is very high, and so many other pursuits tend to turn attention away from these animals. Those who have purchased and bred these sheep pure, or as crosses, seem to be sure they never will be obliged to sell as low as the store sheep from Merino crosses, and the use and appreciation of good mutton is likely to increase as care is taken to furnish it. Z. E. J.

Rhode Island, 1869.

For the New England Farmer.

CAN WE RAISE WHEAT?

HOME-MADE FERTILIZERS.

I notice in Farmer of January 23, an expression in favor of a Wheat Growers' Convention, which struck me favorably. I noticed also the remarks following in which you say one acre of land well manured, will grow 20 bushels wheat, or 50 bushels corn, or 150 bushels potatoes.

The question arises, which is the most profitable? I answer, they are all profitable. Let us have them all, and hay into the bargain.

How shall we do it? All lands that will grow wheat will not grow good potatoes. What of that? All cows that give a good pail of milk will not give good butter; but they may produce good cheese.

Now, I say, let every farmer consider himself lord of the soil, on whom all of God's human creation depend for sustenance; and let him act worthy of his calling, or else back down and give room for more wide awake lords of the earth.

The question arises, shall we send to Boston, New York, or some other distant city to get advise, compost, &c.? No; let us rather take Paul's advice to the women, "Learn at home."

Have a good mellow manure heap made in the course of the summer, from yarding the cattle on muck swamps, rich loam, with manure from the horse stable, hog yard, hen roost, backhouse, ashes and wash room.

After haying plough, say two acres for corn, turn it over completely. Then take and plough two acres of such land as you think will not grow corn or wheat, for potatoes. In the spring, harrow and plant corn, putting in the hill your mellow manure. Cart on to your potato land a light coat of your green dung, spread and harrow it in, then plant your potatoes. After haying, plough for your next years' planting. After harvesting, plough your corn and potato ground. In the spring put on a good coat of green dung and harrow well. Sow the corn land to wheat and grass, the potato land to oats or barley, as you like, and grass. After all is done sow on about twenty bushels ashes to the acre, if you can possibly get them, and nine cases out of ten, in the fall you will find you have good corn, good potatoes, good wheat, good oats, and the next season two tons of hay to the acre.

Now, young farmers,—I call you young, because I am an old man,—follow your hand, and in a few years you will find yourselves in possession of good "gilt edged" butter, cheese, pork, beef and potatoes for the market, and in want of a larger barn wherewithal to house your cattle and store your grain and hay.

It is very profitable to have some stimulating compost to put around the corn soon after the first hoeing. What shall we use? Have they got it in Boston? Yes; and so have you, my good fellow, if you will put your head and hands to work. If you have muck, use that for dry land; if not, go into the wettest place, the deadest hole you can find on your farm; dig anything you can get there; expose it to winter's frost, then put six bushels ashes to a cord of it; dissolve four pounds of copperas in water, procure one barrel of chamberlye, and sprinkle the whole on the heap as you shovel it over, and at the same time add two bushels of slacked lime. Then pack it up under cover, and when you find by thrusting a stick into the mass that it is heating, shovel it over; this done a few times it is ready for use, and you have a good supply for one acre.

If the compost is designed for wet land, leave out the mold or muck, and use instead the dryest-sand loam you have on the farm, and in the place of lime and copperas put in six bushels of hen dung or backhouse manure, and you have a compost for wet land, and need not go to any pick-pocket or money-bought advertisement to get the stimulant you need. You have the materials on your farm and are letting them lie dormant, rather than put your brains and hands to work, in proving all things and holding fast that which is good.

Brookfield, Vt., Feb., 1869. V. Baker.

Remarks.—Not long since a middle-aged man who participated in a convention composed of young and old men, on observing the little deference that was accorded to the opinions of the most aged members, remarked in a regretful tone, "I shall be afraid to grow old." We hope the time is far distant when the practical correspondents of the New England Farmer will have occasion to utter a similar remark. To the five senses on which young people pride themselves, the aged add a sixth—the sense of experience—perhaps the most valuable of all. We therefore take much pleasure in publishing the counsel of the aged on agricultural matters, and assure them of a most hearty welcome to our columns.

GOOD CALVES.

The *Utica Herald* copies the statement recently made in our columns by Mr. W. F. Loomis, of Langdon, N. H., of his ten months old Durham grade steers which weigh 1400 pounds, and then says that a full blood Durham calf, raised by Mr. Oscar Calkins of Sherburne, N. Y., eight months old, and another seven months, raised by Mr. Joseph Sheffield, of the same place, were recently sold to a Utica butcher, which when dressed weighed 1110 pounds, realizing the handsome sum of $132.20.

The older one was fed on nothing but sour milk, uncooked corn meal and hay, not being allowed to taste a mouthful of grass or anything else to vitiate its appetite. When dressed it weighed 570 pounds, the leaf was equal to that of any hog, and the tallow was almost as white as snow.

The younger was fed scalded meal and milk, hay, grass and whatever else came handy. It was seven-eighths Durham, and appeared on foot much the fattest of the two; but on being dressed did not "prove" near as well. It dressed 540 pounds. The tallow had a creamy hue—whether the result of a strain of other blood or of the different mode of feeding, we cannot say. It is thought, however, that the promiscuous diet somewhat injured the appetite, and prevented the accummulation of tallow to the degree found in the older one.

PLOUGHS AND PLOUGHING.

Report on the Trial of Ploughs, held at Utica by the New York State Agricultural Society, commencing September, 1867. With a Supplement, showing the results of a Special Trial at Brattleboro', Vt., to determine several disputed Questions respecting the Action of the Plough.

We have before us the Report of these trials of ploughs, in a well-printed pamphlet of two hundred and eighty-eight pages, from the printing house of C. Van Benthuysen & Sons, of Albany. The Report is understood to have been drawn up by the chairman of the judges, Hon. John Stanton Gould, of Hudson, N. Y.

The first one hundred and thirty-four pages of the report are occupied in giving a history of the plough, beginning with the forked stick, that merely scratched or rooted a small mark in the ground. It then traces them down, through all the improvements, to the plough of to-day, that not only cuts a furrow one foot deep, but so completely pulverizes the soil, that the committee say that, at their trial, "there can be no doubt that the work was much better done than it could have been done by a spade."

Numerous illustrations are given which show the plough in all its forms. The first specimen given is copied from an ancient monument in Asia Minor, made wholly of the natural crooks of the branch of a tree, the only artificial contrivances being a short brace between the share and the beam, and three pins for the yoke to press against. It was with a plough like this, the report says, that the servants of Job were "ploughing in the field when the Sabeans came upon them and drove them away."

The first important improvement upon the forked stick is shown in a plough of the eleventh century. "It consisted of a simple wooden wedge, covered with strips of iron, one side being placed parallel to the plough's direction, the other sweeping over to the left hand, and leaving an unobstructed furrow for the next slice. A coulter, not unlike those now in use, is inserted in the beam, and a wheel is placed in front to regulate the depth. The idea of a wedge form for a plough had begun to dawn upon men's minds, some using the wedge acting vertically, others laterally; but it existed in the minds of plough-makers in too vague and misty a form to be of much practical benefit. No one had as yet grasped the idea of combining the two wedges in the same implement, nor had they any idea of the curves by which this could be effected."

In the beginning of the last century, a plough was introduced into England from Holland, known as the "Rotherham plough," which was a great improvement on anything that had preceded it. This plough was rejected by the celebrated Jethro Tull. It was not until near the beginning of this century that men began to think that the true principles involved in the construction of the plough, might be so ascertained and described that any good plough-maker should be able to follow them. Before this period, the old writers complain that, when the makers of good ploughs died, their art died with them. Authur Young says, "a very ingenious blacksmith made ploughs of iron, and yet when he died no one else could make them." The report says that Thomas Jefferson "was the first to discern that the plough should consist of two wedges, one acting vertically and the other laterally, which should be so blended in the curve surface that the furrow should rise and turn over smoothly and continuously, and that it is impossible to over estimate the value of this contribution to agricultural science.

The first intimation of any idea, on Mr. Jefferson's part, the report states, of improving the plough, is found in his journal of a tour in Germany, made in the year 1788, when he was American Ambassador in France. In passing through Lorraine, he frequently alighted to observe the teams and implements of the farmers who were engaged in ploughing by the wayside. * * * Stopping for a night at Nancy, the capital of the ancient dutchy, he made an entry in his journal, from which the following is an extract. "Oxen plough here with collars and hames. The awkward figure of their mould-boards leads one to consider what should be its form. The offices of the mould-board are to receive the sod after the share has cut under it, to raise it gradually and to reverse it. The fore end of it, therefore, should be horizontal, to enter under the sod; and the hind end perpendicular, to throw it over; the intermediate surface changing gradually from the horizontal to the perpendicular. It should be as wide as the furrow, and of a length suited to the construction of the plough." There can be no doubt whatever that Mr. Jefferson is solely entitled to the honor of inventing the first mould-board plough on mathematical principles. He made descriptions and drawings and presented them to the celebrated David Rittenhouse, of Philadelphia, who demonstrated that they were founded on mathematical principles.

James Small, of Scotland was the first inventor of the cast-iron plough, and it is used to this day in many of the best cultivated districts in Scotland.

In 1785, Mr. Robert Ransom, of Ipswich, England, obtained a patent for making ploughshares of cast-iron.

The first cast-iron plough ever made in America was invented by Charles Newbold. Mr. Newbold spent more than $30,000 in perfecting and introducing his plough and then abandoned the business in despair, as the farmers had in some way imbibed the strange notion that the cast-iron plow poisoned the land, injured its fertility and promoted the growth of weeds.

In July, 1814 Mr. Jethro Wood, of Scipio, N. Y., obtained a patent for a cast-iron plough, in which he had made such improvements as to fairly introduce it to general use.

In 1842, Messrs. Nourse, Ruggles & Mason introduced their famous "Eagle No. 2," which the committee say "retains its popularity to the present day."

In 1845, Gov. Holbrook, of Vermont, began to assist Mr. Nourse in improving his ploughs, and ultimately the Governor "devised a system by which if the longitudinal lines are carefully laid down upon the pattern, the vertical lines will be sure to come right." Thus Mr. Jefferson's plough has been perfected, and under the skilful hands of the Governor, won the great prize of 1867 at Utica.

Many other men besides those named "deserve honorable mention," as improvers of the iron plough, and among them J. Dutcher, of Durham, N. Y., John Mears and James H. Conklin. Daniel Webster believed in deep ploughing, and he made a plough to go a foot deep, and turn a furrow two feet wide. This plough was made in his own work-shop on his farm at Marshfield,—much of the work being done by his own hands. The principles on which he constructed this great plough were substantially the same as those adopted by Mr. Jefferson, but Webster gave greater length, proportionately, with more twist or overhang at the rear end, so as more surely to invert the sod in deep ploughing. Mr. Webster told Gov. Holbrook that "when he had hold of the handles of his big plough, with his oxen in a field just cleared of bushes and shrubs, and heard the roots crack, and saw the stumps go under the furrow out of sight, and observed the clear, mellow surface of the ploughed land, he felt more enthusiasm over the achievement than came from his encounters in public life at Washington." This mammoth Webster plough is fully illustrated in the report by engravings.

The foregoing is but a meagre abridgement of of the excellent *History of the Plough* contained in the report. In another paper, we propose to speak of some of the objects to be accomplished by ploughing, and what kind of an implement is best adapted to that purpose.

—Mixing hen feed with a strong suds of common soft soap is recommended both as a preventive and cure of gapes, by S. C. Hall, in *Rural New Yorker*.

CHEESE MANUFACTURERS.

We have just returned from the fourth annual meeting of the Massachusetts Cheese Manufacturers' Association, held in Barre, Feb. 18. We have not time to write out our impressions of this spirited meeting for this page. We must, however, say that it was well attended and the right spirit manifested. Mr. D. S. Ellis, one of the Vice-Presidents, presided; the President, Mr. Hollis Tidd, of New Braintree, having died since the last annual meeting. The following officers were elected for 1869:—

President—Thomas P. Root of Barre.
Vice-Presidents—William A. Warren, Jr., of Hardwick, Lewis Sanderson of Petersham.
Secretary—N. A. Hubbard of Brimfield.
Treasurer—B. F. Hamilton of New Braintree.

We copy the following abstract of the reports from the several cheese manufactories represented in the meeting, from the *Daily Advertiser* of February 19th:—

Barre Central Cheese Company—Commenced to make cheese April 6th; closed Nov. 25. Number of pounds of milk received, 1,691,083. No of pounds of cheese made, 180 855. Pounds of milk for a pound of cured cheese, 9.35. Average price per 100 pounds, $14.50 net. Cost of manufacturing per 100 pounds, $2 27. Capital invested, $3000. Help employed, two males and one female. Cost of same, $1214.20.

Worcester County Cheese Factory, at Warren—Commenced to make cheese March 30th, closed Nov. 7. Average number of cows, 440. Number of pounds of milk received, 1 516,009, number of pounds of cheese made, 155 233. Pounds of milk for a pound of cured cheese, 9.76. Average price received per 100 pounds, $13.056. Cost of manufacturing per 100 pound, $2.25. Capital invested, $ 200. Help employed, two men and one woman. Cost of same, $1404 09.

Wilbraham Cheese Company—Commenced making cheese May 25th, closed Oct. 30. Average number of cows not stated. Number of pounds of milk received, 386,774. Number of pounds of cheese made, 40,117. Pounds of milk for a pound of cured cheese, 9 64. Average price per 100 pounds, $12.27 net. Cost of manufacturing per 100 pounds not stated. Capital invested, $2500. Help employed, one man and one extra ten weeks. Cost of same, $623 76.

Barre Cheese Company—Commenced to make cheese April 8th, closed Nov. 11. Average number of cows, 350. Number of pound of milk received, 1,826.224 Number of pounds of cheese made, 182,447. Pounds of milk for a pound of cured cheese, 10. Average price received per 100 pounds, $13.77 net. Cost of manufacturing per 100 pounds, $2 67. Capital invested, $ 200. Help employed, two males and one female. Cost of same, including board, $902.64.

Barre Southwest Cheese Factory—Commenced making cheese May 25, closed October 16. Average number of cows, 113. Number of pounds of milk received, 271,810. Number of pounds of cheese made, 24,920. Pounds of milk for a pound of cured cheese, 10 56. Average price received per 100 pounds, $16 20. Cost of manufacturing per 100 pounds, $2 87½. Capital invested, $650. Help employed, one man through the season and one woman half the time. Cost of same, $321. The milk was skimmed at night one half the time.

Petersham Cheese Company—Commenced May 6, closed Oct. 19. Average number of cows not stated. Number of pounds of milk received, 862,531. Number of pounds of cheese made, 39,386. Pounds of milk for a pound of cured cheese, 9 65. Average price received per 100 pounds, $12 93 net. Cost of manufacturing per 100 pounds, $2.35. Capital invested, $4500. Help employed, one man, one woman and one boy. Cost of same, $650.

Hardwick Central Cheese Company—Commenced April 6, closed Nov. 24. Average number of cows not stated. Number of pounds of milk received, 2 047,467. Number of pounds of cheese made, 206 570. Pounds of milk for a pound of cured cheese, 9 91. Average price received per 100 pounds, $14 441 net. Cost of manufacturing per 100 pounds, $2.847. Capital invested, $1250. Help employed, two men and one woman. Cost of same, $1426 98.

New Braintree Cheese Company—Commenced April 20, closed Dec. 1. Average number of cows, 475. Number of pounds of milk received, 1,919,815 Number of pounds of cheese made, 191,117. Pounds of milk for a pound of cured cheese 10 1.20. Average price received per 100 pounds, $13 80. Capital invested, $8000. Help employed, average 8½ hands. Cost of same, $1260.13.

From the above it will be seen that in the eight factories during the season of 1868, 1,020,645 pounds of cheese were made.

MILK PRODUCERS' MEETING.

A special meeting of the Massachusetts and New Hampshire Milk Producers' Association was held at Nashua, N. H., Feb. 16, to discuss the best stock and best feed for producing milk for the market. President Lyman Belknap, of Westboro', Mass., presided.

Wm. Ramsdell, of Milford, N. H., as reported by the *Boston Journal*, stated that the leading objects of the Association had been accomplished. It has a membership of over five hundred. A good understanding exists between farmer, contractor, peddler and consumer. Seventeen thousand gallons of milk, transported by steam, are consumed in Boston, every day. The tariff on transporting milk is very uniform, distance considered. Milk retails in Boston this year at nine cents per quart, Massachusetts measure. This gives the dairy farmer on the Peterboro' and Shirley road, the farthest point reached, five cents a quart at the depot. The contractor receives one cent for conveying it to the peddler, who thus gets three cents per quart for furnishing cans, delivering, &c.

Best Stock and best Feed for Milk.

Mr. Wright of Amherst, N. H. a farmer since 1831, who has sold milk for ten years, said he had kept native and Devon stock, but considered Durham superior. Generally feeds corn meal and cob meal together, sometimes shorts. Had found that oil meal has a tendency to cause cows to slip their calves. Considers eight quarts of milk a day during winter and twelve to fourteen on full feed a good yield per head. Didn't believe in cows giving twenty-two quarts a day.

Mr. Adams of Littleton, Mass., believed in crossing breeds. Looked at style and shape and general contour of the animal. Get a cow with a bright eye that "stands out."

Mr. Hutchinson, of Milford, considered Ayrshires better than Durhams. Obtained twelve quarts easily per day from the first named through winter.

Mr. Abbott, of Wilton, in selecting twenty cows, would choose from every breed, particularly the Ayrshire.

J. A. Harwood, of Littleton, Mass., thought grade Durhams most profitable to fill milk cans, though he breeds and sells pure blood Short-horns. We need the thoroughbreds to get the grades. They are easily milked, and very docile. When not in milk they take on flesh rapidly. The Ayrshires he considered next to Durhams, but are fractious; the Dutch are large and coarse, hard to keep, give much poor milk; dislikes the Devon for milk, never knew a good one. The Durham and Ayrshire cross is a good stock for milk.

E. G. Newton, of Bedford, liked the native stock for quantity and holding out. Had several which each average fourteen quarts daily through the winter. He had fed oil meal a good deal and liked it. Had had serious trouble when feeding cotton seed meal by cows drying up, calving prematurely, &c.

Mr. Ramsdell said very few farms in Milford have rich grass enough to make it profitable to keep Durhams.

Mr. Rowell, of Westboro' kept from forty to fifty cows. From practical experience, he believed in grade Durhams; had one Hereford that gave over nineteen quarts rich milk, Massachusetts measure, some days more, for ninety-two days in succession, on nothing but grass. She sometimes gives two cans a day in winter, but objected to her spiteful disposition towards other stock and the women folks. Has an excellent seven-eighth Ayrshire and one-eighth Durham that gives a great quantity of milk.

President Belknap had tried natives—full-blooded Durhams, Ayrshires and grade Durhams. Was best satisfied with a crossed Durham; had some Ayrshires crossed with seven-eights Durham; liked Durhams because they are gentle and docile. They require rich pastures, but not much better than for Jerseys. Some will give twenty quarts per day six weeks after coming in. Preferred natives for crossing. Durham calves six weeks old dress from 90 to 120 pounds; others 75 to 90, and perhaps 100. When through milking Durhams you have a body to feed that will dress 600 to 700 lbs. On a butter farm would keep Jerseys, but to produce milk should use crossed Durhams.

Mr. Haskell, of Still River, Mass., had one Hereford which gives more milk than any other cow he ever owned. Now gives two seven-quart cans daily. A cross of thoroughbred bull with Durham gives best stock.

Mr. Hawkins, of Lancaster, Mass., stocked his farm with grade Durhams, and he had one which gave over 500 cans in a year. A half Ayrshire and half native filled 502 cans from November to November, and in February, second month after calving, 65 cans. Thought Durham cows require more feed than Ayrshires, because the weight of hay that satisfied an Ayrshire would not a Durham. Preferred Ayrshire and natives crossed. Sent two cans of milk to Boston to be analyzed. One specimen, called skim milk at home, from a Durham, was pronounced superior to yellow fluid from a noble Jersey cow. When testing the hay consumption, he was feeding a peck of roots and four quarts of shorts daily, and ninety pounds of hay per week.

Mr. Pillsbury of Londonderry -fed five pounds of good hay three times a day, and a foddering of poorer hay at night. A 110 pound calf dropped by a Durham cow weighed 160 pounds in twenty-five days.

In the afternoon an address was delivered by Dr. George B. Loring of Salem.

Dr. L. preferred the Ayrshires. The general condition of New England farms requires medium sized animals. Short-horns in three or four generations, if haymows are scanty and corn bins not overloaded, will accommodate themselves to the situation by dwarfing in size. As to feeding cows in winter, he had tried every mode of feeding, steaming food, feeding dry hay, &c. He would not advise the use of steamed food. The apparatus is expensive and it takes a good deal of time. His present system was as follows: From 5 to 7 A. M., dry hay, equal parts early cut herds grass and "black hay;" 1½ pecks Mangel Wurtzels at 10 before watering; from 1 to 3.30 P. M., dry hay; at 4, half bushel chopped hay mixed with 4 quarts shorts. His cows never did better, and they were producing more milk than ever before. Young stock were simply fed with hay from 5 to 7 and 1 to 3. In spring, when mangel wurtzels are exhausted, 2 quarts cob meal with 3 quarts shorts, keep cows right along in the same milking condition as if receiving 1½ pecks turnips and the shorts. All the grain is incorporated in chopped feed. He had fed 40 cows for two years an average of three pints cotton seed meal apiece per day. After the first winter's feeding, they didn't seem to thrive. At the close of the second years' trial he had no perfect cows; some had three teats, some two and some one—none four. Four or five years afterward, having a half dozen cows from Vermont, he increased the daily ration of cotton seed meal to four quarts. One cow giving 16 quarts dried in July, and never rose above 6 quarts after calving in October. Milch cows should not eat corn meal, oil meal or cotton seed cake. Corn fodder, herdsgrass cut just as the bloom is ready to drop, shorts and mangels are all good. The poorest crop a farmer can raise to feed out in summer is green corn. It unduly stimulates the kidneys and bowels. Three acres of sugar millet will carry from 40 to 50 cows through the dry season. It is admirable food. Ruta bagas are excellent for cattle, cows, and young stock. Millet should be sown from May 20 to the middle of June, in order to have crops coming along at different seasons.

Mr. Adams of Littleton, milks at 6 A. M., feeds enough dry English hay to last 1½ hours; then meal; waters at 9; quiet until 12.30; then dry hay as in morning and quiet till 4; then hay; milks and waters. Allowance per day—15 lbs. English and 3 lbs. meadow hay, 4 lbs. shorts and 3¼ lbs. cotton seed meal. Expense 32½ cents. Nine cows give eleven cans per day; profit per head, $4.95 a month, manure paying for labor. Has always used green corn fodder, and thinks it helps the cows best to let it wilt a little.

Mr. Pillsbury milks in the morning before feeding at 6.30; gives 11 cows 55 lbs. hay three times a day; shorts and cotton seed meal dry; drink afterwards very heartily. From seven cows with good flow and two nearly dry, gets ten cans milk daily.

J. W. Thatcher of Shirley, Mass., liked cut better than dry feed, as more natural. In summer his cows feed when the dew is on, and come down to the barnyard to drink about 3 P. M. His stock had not done as well as usual this winter, through not having time to cut their feed.

Mr. Hutchinson of Milford, feeds cut hay, four quarts shorts, and one quart cob meal wet with warm water, morning and evening. His cows generally drink three times a day. Cuts corn fodder in morning, pours on warm water and lets it stand until noon, without meal.

Mr. Hawkins of Lancaster, Mass., raises 1000 to 2000 bushels roots a year for 20 cows. When he can sell them for 50 cents a bushel, does so and invests the proceeds in shorts.

Mr. Rowell feeds two quarts oil meal in cut feed, shorts, and what hay a cow will eat in three hours, in two fodderings. Had probably handled over as much milk as any man in Boston in the last fifteen years, and could generally tell by testing the fluid what cows are fed on, whether mangel wurtzels, oil meal, &c. Did not believe good salable milk that would satisfy customers can be made from roots. There is more body in 20 cans milk raised from oil meal, Indian meal and shorts, than in 25 cans produced from roots and shorts. The great aim should be to stimulate rich, creamy milk, not an indefinite amount of slops.

GOOD STEERS.—We noticed last year a pair of oxen fatted by Mr. Jonathan Slade of Somerset, Mass., that weighed 4400 pounds dressed. We understand that he has recently sold to Mr. A. White & Co., of Taunton, a pair of four-year-old steers that dressed off 3980 pounds, with a loss of only 20 per cent. of live weight in offal. They were very closely matched, and varied only six pounds in weight. Mr. Slade also fatted this season a litter of nine pigs, which at eight months of age averaged 373½ pounds. The good feeders have not all left New England.

AGRICULTURAL ITEMS.

—It is stated that the cherry trees are failing in the vicinity of Cleveland, and that large numbers are being dug up.

—An Australian inventor has built a machine for shearing sheep by steam, which it is hoped will prove a success.

—Southern men are boasting that this year's cotton crop is of more advantage to the country than all the gold California has ever produced.

—The Lexington, Ky., Farmers' *Journal* says that few farmers in that State are willing to exchange their country homes for a residence in town.

—H. G. White, of South Framingham, Mass., has sold the noted Short-horn bull, "Ninth Duke of Thorndale" and six heifers, to Mr. D. S. Pratt, of Brattleboro', Vt., for $3000.

When a ton of wheat is marketed it leaves nothing behind but $5 worth of straw. When a ton of meat is sold, it has left behind it a large portion of the manurial value of the food consumed in making it.

—The Maine farmers in convention at Augusta decided that the Orono, as it is called, was the best potato to grow in the State. It is also called the Carter, Reed and Foote potato, but the convention held to the name—Orono.

—Mr. A. Morse recently told the Craftsbury, Vt., Farmers' club that the hog brake may be destroyed by mowing three times in one season, cutting them each time about the time they reach their full stature. The third time there will be but few to mow.

—In the Western States and in Kentucky there is a singular epidemic among bees. In some cases whole swarms have disappeared leaving a good supply of honey. It is said that great numbers of dead bees are found about streams of water and on ice. No satisfactory cause has as yet been discovered for this unusual mortality.

—The Portland *Advertiser* says that the potato crop for 1868 is the heaviest since 1862, when there were exported from the State one million bushels. As less than half the usual quantity has come forward to market, the idea of an advance in prices under the influence of which farmers are still holding their crops bids fair to be disappointed.

—The *Prairie Farmer* says that the State of Indiana has as yet made no effort to establish her agricultural college. The land scrip has been sold, amounting to $212,238 50, and the proceeds invested in 5-20 bonds. Gov. Baker reports to Congress that it is believed the present legislature will act upon the subject of the location of the college.

—Mr. A. B. Tilson, of Sidney, informs the *Maine Farmer* that he sowed one and three-fourths acres of wheat the first of May last, from which he harvested twenty-seven bushels. On a portion of the field he put one bushel of salt, and on another a mixture of ashes, plaster and lime, but saw no difference. The variety sown was the Canada Club.

—Emmet Wells, who reports the New York hop market for the *Utica Herald*, says there is a scarcity of fine hops, and that an early and material advance in the price of such would not be surprising, but that there is no hope of improvement in the price of medium and low grades. There is a large exportation to Europe. In two weeks 3839 bales were shipped from New York.

—If old hay is well stacked, or in the barn, it is worth about as much the second year as the first. It is a good plan to keep over a few stacks to meet the emergency of a short hay crop. It is a poor plan to buy hay when it bears the highest price. The most thrifty farmers have hay to sell in years of short grass crops, and the extra price pays very well for keeping.

—The President of the State Agricultural Association, Michigan, in his annual report, condemns the system of instruction pursued at the Michigan Agricultural College, on the ground that the students generally abandon farming after graduating, instead of becoming "model" farmers. He thinks the object of the Agricultural College ought to be to train young men to be farmers.

—To illustrate the injurious effects of fall-feeding grass land, Mr. I. D. R. Collins, at a meeting of the Craftsbury, Vt., Farmers' Club, said, "I have three-fourths of an acre of land which I fenced in with my garden some years ago, since which no cattle have been on it fall or spring, and it will produce good crops of grass twice as long as precisely similar land the other side of the fence treated with the same amount of manure."

—James L. Ingolsbe, a farmer of South Hartford, Washington county, N. Y., cooks all the food eaten by his stock of cattle, except hay—using for the purpose a six-horse engine with the necessary steam vats. Last summer he pitched all the hay in his barn with the engine, sawed his wood with it and threshed all his grain. He has a large herd of cattle, and he claims that they do much better on cooked food than upon the raw.

—A New Hampshire paper says: "A red squirrel was recently caught in the barn of D. C. Brown, of Berlin, which had in less than three months' time carried two bushels of corn up a flight of stairs and safely stowed it away for future use. The same squirrel, it is thought, some two years since carried up stairs a barrel of ears of corn, and to make a sure thing of it bottled them up by dropping them through the bung hole of a cider barrel, in which Mr. Brown found them."

—Charles F. Quinby, of Rangely, informs the *Maine Farmer* that he raised 29½ bushels of wheat, thresher's measure, on one and one-fourth acres of ground; on half an acre of which he raised potatoes, half an acre oats, and the rest corn and beans last year. The oat and potato ground was ploughed the fall before, on which twelve cartloads of barnyard manure were spread and harrowed in. The first day of April he sowed two and a half bushels of wheat on the piece.

—In addition to the utmost neatness in washing the milkroom and all vessels used for milk and cream, the *Prairie Farmer* recommends that dishes containing pulverized charcoal be placed about the room to absorb ammonia and other gases that cannot be otherwise removed. The charcoal should be freshly prepared, and by heating it after it has become partially saturated with gases, they are driven off and the charcoal rendered as effectual as at first.

—According to experiments made in England by Mr. Lawes, the proportion of offal to each 100 pounds of live weight, made on the bodies of sixteen oxen, two hundred and forty-nine sheep and fifty-nine hogs, was as follows:—In oxen, 38.9 pounds; sheep, 40.3 pounds; hogs, 16.7 pounds. The proportion of the stomach and contents was, on an average, in oxen, 11½ pounds; in sheep, 7½ pounds; in hogs, 1¾ pounds; of the intestines in oxen, 2¾ pounds; in sheep, 3½ pounds; hogs 6¾ pounds.

—A correspondent of the *Prairie Farmer*, in discussing the question whether the hazel bush, which at the West is considered a reliable indication of good soil, is the cause or the result of fertile land, says, in the first place, the hazel is an earth worker; its roots spread wide and extend deep, going much below the greatest depth ever reached by the sub-soil plough. These roots, when they decay, form minute drains for the passage of water and air; while the wood of which they are composed, goes to the nourishment of plants. The branches and foliage stop the movements of the carbonic acid as it is carried along in the air, and cause it to be readily taken up by the leaves. These leaves in turn fall to the ground, and in this manner help to manure the land. Thus the hazel bush digs the soil, drains it, waters it, and manures it by substances taken from the air. Clover is supposed to do about the same thing.

—A correspondent of the *Rural New Yorker* says, the only way that I know for keeping chestnuts in good order for planting is to gather them from the tree while *green*, and put up barrels with one layer of dirt and one of chestnuts. That is the only way that they can be kept green; for if packed without dirt they will heat and not come up, and if they are dried in the sun they will not germinate. They may be sown broadcast on the land and ploughed in. The fall is the best time to plant or sow them.

—A Missouri farmer writes to the *Utica Herald*, that like all other warm Western States, Missouri has her malarious diseases, but they yield readily to medicine and care, and are not much dreaded. Lung diseases are much more seldom here than in the East. Mankind seldom cough here. Horses never heave, so far as I have seen. We have much more sunshine, consequently less cloudy and damp weather. Our heat is a little greater and a little more enervating, but we seldom have what you call sultry weather, but commonly a refreshing breeze. Sometimes a day comes when we like to sit in the shade and sing softly—"blow, breezes blow."

EXTRACTS AND REPLIES.

KICKING COWS.

I have for a number of years succeeded in breaking the worst of cows and heifers of kicking by taking a piece of bed cord, make a loop large enough for the cord to slip through easily; then put the cord around the cow's hind legs, just above the gambrel joints; slip the end through the loop and draw the legs together by pulling upon the cord. The cow will try to kick, but hold the cord so tight that she cannot get her legs at liberty, and she will soon give it up. Now hold on to the cord while another person milks. In this way I not only break my heifers of kicking, but of stepping about, which is nearly as bad. After two or three milkings if they continue to plague, I buckle a strap about the hind legs, then sit down and milk as though I had a gentle cow, which is sure to be the case in a short time. A Farmer.

Dudley, Mass., Jan., 1869.

—

I wish to inform your Long Plain correspondent, and all the rest of mankind, of a better way to break a kicking cow, than to clinch her dirty hind leg and hold it up as high as her head. Just place a log chain across the cow, back of the shoulders, while milking, for a week or so, then a light chain or even a rope will answer. In ten or twelve days she will be as gentle as her mother ever was.

Newfane, Vt., Jan. 13, 1869. S. G. Brown.

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To break a cow of the habit of kicking, I make a stall at one end of the stable just wide enough for her to stand in. This will require two posts and two planks. One post is set up by the cow's shoulder and the other a little back of her hind legs, as she stands in the stanchion. On the inside of the posts spike on one plank so that the middle of it will be even with her shoulders and rump, and the other plank as low down as may be without being in the way of milking. Then make a mortice through the hind post and a corresponding one into the side of the stable opposite, for a slat to come up just above the cow's gambrels. This slat is to be put between her legs when milking. Another slat is mortised into the upper plank and the opposite side of the stable,—to pass over the cow's back and low enough to depress her back two or three inches. These slats are movable and are to be put in place after the cow is fastened in the stanchion. This done, cut your finger nails and as gently as possible go to milking. The top slat is designed to prevent the cow holding up her milk, and will be needed but a short time. In this "fiddle," as the boys call it, the cow finds she cannot kick and soon gives up all attempts to do so, and both slats may soon be left out. R. PARKER.

Corinth, *Vt.*, *Jan.* 10, 1869.

REMARKS.—After receiving this letter we wrote to Mr. Parker saying we should fear that a spirited cow put into such a "machine" would be likely to injure herself, and especially her bag, on the slat placed between her legs. To this he replied that he had never known of one being injured. He says, "the worst cow I ever saw was put into such a stall, and in three weeks all that need be done was to drive her in and she would stand perfectly still."

—

My method of treating kicking cows is to make a slip noose in the middle of a good sized rope of sufficient length; slip the noose around the right hind leg and tie the end to a ring in the stable floor in such a manner as to prevent the cow from moving her leg towards the milk pail. She will soon find herself outwitted, and may be milked without the rope. I have broken a large strong cow of kicking and running in summer, by tying her in a similar manner to a fence post, so situated that she could not run around it. After a few attempts to run, she became thoroughly subdued. I never had a cow lamed or injured in this way.

C.

SUPERPHOSPHATE.

Your correspondent, "W. S. A.," asks some reader of the FARMER to give some information in relation to the use of superphosphate. I purchased one barrel of Bradley's last spring and tried it on various crops. And in no case could I see any benefit from its use, except on corn. On green sward, just turned over, I spread my green stable manure liberally, and harrowed thoroughly. As an experiment, I planted eight rows, four with and four without the phosphate. In applying the phosphate I dropped one tablespoonful in each hill and mixed it well with the soil.

All through the season, there was a marked difference in *color* and *growth* of stalk, and when stooked in the fall, (each four rows were cut and stooked by themselves) there was a marked difference in the *size* and *heighth* of stooks. Thus much in favor of the phosphate. But the true test, to my mind, was yet to come. I husked each row of stooks in the field, and there were just 18 bushels of ears in each row; so I conclude that I am out of pocket seven or eight dollars, except the value of a little more fodder. I shall pay no more such prices for such articles. I shall make my own fertilizer this year, recommended in the Boston *Journal of Chemistry*, (a monthly publication, by the way, every farmer should have, at only 50 cents a year). One barrel of fresh, raw ground bone, and the same quantity of good ashes wet with water to a proper consistency. Use a handful to a hill. TIMOTHY WHEELER.

Waterbury Centre, *Vt.*, *Feb.*, 1869.

MASSACHUSETTS AGRICULTURAL COLLEGE.

Will the FARMER, or those who know, inform all who have sons at the Massachusetts Agricultural College who are trying to work their way through that institution single handed, why they are paid only ten cents an hour for their labor on the farm, while other help receive three dollars per day for the same labor. ONE INTERESTED.

Dudley, *Mass.*, *Feb.* 6, 1869.

REMARKS.—Want of funds, we have no doubt, is the true answer to your question. Much of the labor of the students is probably expended upon the improvement and preparation of the land and premises, from which no immediate cash return is received. We must refer you to a comunication from "N. S. T.," in the FARMER of February 6, in which he alludes particularly to this point, and says one of the immediate wants of the college "is money to pay the students for their work." Amherst has a fund of $100,000 for a similar purpose. Who will step forward and give the Agricultural College a like or larger sum, the interest of which shall be devoted to paying the students better prices for their labor? We understand that the actual running expenses of Harvard College, with all its accummulated facilities, are about $150,000 a year. Why should the Agricultural College be expected to make brick without straw, or to educate young men much cheaper than other institutions?

RECIPROCITY.

The following statement of imports from the Province of Canada, taken from the Report of the Secretary of the Treasury, for the fiscal year, ending 30th June, 1867, illustrate the subject of Reciprocity and the interest which our farmers have to oppose such a policy.

Total imports exclusive of specie:—

1865	$27.595 661
1866	40,989 661
1867	19,758,474

Therefore, the abrogation of the treaty reduced imports from the province of Canada over 50 per cent. Yet in 1857, and under the present tariff the following are some of the items of farm products that were imported, and show our farmers what they have at stake in the settlement of this question of Reciprocity:—

Live animals of all kinds, 1,902,360; butter, 3,629,837 lbs.; cheese, 50,195 lbs.; fruit, $27,469; hides, $73,912; hops, 79,258 lbs.; beef and pork, 708,628 lbs.; bacon, 368,145 lbs.; potatoes, 181,020 bushels; lard, 33,720 lbs.; vinegar, 119,220 gallons; wheat, 1,923,524 bushels; flour, 232,966 bbls.; rye, 242,538 bushels; barley, 3,247,005 bushels; oats, 681,440 bushels; oat meal, 13,374 cwt.; boards, 413,375 M.; rough timber, $413,401; other timber, $1,539,314; wood, 139,318 cords; shingles, $35,061; free of duty, $7,482,726; wool, imports large, but much was shipped to England, where they get their supplies of foreign articles.

The amount paid into our treasury for duties in

1867, was $5,400,000, which helped pay our taxes, or debts. We believe that when the above products were landed in our markets and *duties paid*, they cost their producers less than our products did our farmers; for land, taxes, labor, clothing, board, &c., are about 50 per cent. lower in Canada than in New England. We may live to see our farmers sold again by Reciprocity.

Middlesex, Mass., 1869. A Farmer.

BONES AND OTHER FEED FOR HENS.

I see by the last Farmer that Mr. Thos. Snell cannot find suitable bone meal for his hens. With your permission, I will give my mode of feeding bones to hens: I burn them until I can pound them easily with any light instrument, or even with the heel of my boot; and if any are left so large that the hens cannot swallow them, I then pound them finer. I use any bones I happen to have, whether large or small. I think the burning does not change or injure any principle of the bone. In feeding my hens, I give that which I think will do the best for the purpose for which I feed. If eggs are my object, I feed on corn, oats, boiled potatoes mixed with bran or oat meal, or any other feed that does not tend to fatten them; if I wish to fatten them to kill, I feed on corn meal made into dough by scalding, mixed with boiled potatoes, and two or three times a week give them a feed of curd, made by scalding sour milk. They fatten very fast on this feed. Curd is the best feed for young chickens or turkeys.

Lancaster, N. H., Jan. 28, 1869. Z. Black.

P. S.—As I am not in the habit of writing for publication, you will pardon imperfections. If you would like, and will take the trouble to correct errors, perhaps I may give some account of farms and farming up here in upper Coos. Z. B.

Remarks.—We shall certainly be much pleased to receive any account of farms and farming in "Upper Coos;" that you can find time to furnish; and, judging from the foregoing, we think our part of the covenant will be pretty easily performed. Farmers in one section like to hear from farmers in other sections of the country. Don't forget your promise.

CATTLE FEED.

To make beef and milk, which of the various kinds of feed shall we use? We have our choice of corn, oil cake, cotton seed meal, shorts and middlings, but do not know what to buy. We meet men engaged in manufacturing milk, and hear one denounce cotton seed meal and another praise it; a third man is ready to tell of his success in making milk and flesh with shorts and hay, giving great credit to shorts, while another's cows were growing poor with the same feed, viz: shorts and hay. Supposing there is a difference in the value of shorts, and knowing there are different qualities of hay, we are still in doubt what to buy. There has been but little said of the different qualities of hay, in the reports of farmers' discussions. I believe that much of the difference resulting from the various methods of feeding is owing to the different qualities of the hay used, and feeling sure that what is termed *good* hay by farmers generally is not the best, and believing, likewise, that they seldom know which their best hay is, I have lost all hope of learning the relative value of grains in that way. How are we to learn? Not by our own experience, for we are not scientific or systematic enough to determine the question. Were it not that we compete with others who are just as much in the dark as ourselves, our failure would be sure. Since, as producers, we *must* live, the consumers have to pay for our ignorance. If some scientific and philanthropic man, who would give to the millions cheap food, will tell us what combination of grass and grain will produce the most milk and meat for the least money we will willingly (as we should be forced by competition to do) give to the consumers the benefit of the information. F.

Mast Yard, N. H., Feb., 1869.

SYKES' PLOUGHS—RAPE.

In an account of the New England Plough trial, the Hines and Sykes' Swivel plough is spoken of as the best on trial. Where can I find said Sykes plough?

In the Farmer rape is spoken of for soiling cows. Some say rape is millet, others that it is kale. Please tell me what it is.

Judson Thompson.

Morrisville, Vt., Feb. 11, 1869.

Remarks.—We do not know where that plough is made or sold, and doubt whether it is any better than those advertised in our columns.

Webster's dictionary gives the following botanical description of rape: "A plant of several species of the genus *Brassica*, belonging to the cabbage tribe, especially *B. napus*, and also *B. campestres*, much cultivated for their roots, which resemble the turnip, and afford a valuable food for sheep and cattle, and for their seeds, from which oil is extracted." Mr. Burr says the best variety for oil is not sufficiently hardy for the Northern States. The more hardy varieties he thinks might succeed here.

CHANGING SHEEP FOR COWS.

The wool growers are having dull times now, and some are thinking of changing their sheep for cows. I would like, with your leave, to ask them a few questions. Will it be safe business to change sheep for cows at this time? If they do so, how long will it be before prices of dairy products will fall, so that they will be worse off than they are now? Is not the importation of foreign wool the cause of all this trouble? How long will farmers sit still and let the importers have the market under their control? Is there any good reason under heaven why this nation should buy of foreign nations what we can raise to as good profit as we can wool? Why not organize a grand movement of wool growers; call every man of them, and invite the dairymen to join them, and perhaps now that the Pennsylvanians have their ore beds well railed over with English iron they will join the movement, and all go to Congress, and, if petition will not do, demand in respectful language such a recognition of the agricultural and mining interests of the country as shall make our nation truly independent? W. S. Grow.

Westboro', Mass., Feb. 16, 1869.

ANSON, ME.

This town is in all probability the most extensive wool growing town of its size in the State of Maine. It contains about thirty-six square miles, and is estimated to feed 20,000 sheep this winter, mostly merinos, and that its clip next spring will be about 100,000 pounds of wool. Great interest is manifested in the wool market, as many farmers have on hand from 1000 to 5000 pounds waiting for a rise in the market; for some of which one dollar per pound has been refused. Sheep have been bought and sold in this town for a thousand dollars per head, which can be bought back, or their equals, for ten dollars to-day. Farmers sometimes allow "the golden opportunity" to pass unimproved. Ability to raise large crops or fine stock is only one of the elements of successful farming. A knowledge of the markets, and of the best mode and time for disposing of our products to the best advantage have become a necessity to every producer. This requires the exercise of a sound judgment and a careful calculation. One needs a firm nerve to sell on a rising market, and from want of such nerve many good bargains are allowed to slip out of one's fingers. Some time since one man in this section refused, on an advancing market, an offer of $30 per ton for a lot of hay which he finally drew eight miles and sold for $10 per ton,—making a difference of some $4000 in a single trade. While telling farmers how to plant and how to reap, our agricultural papers would do well to furnish us with the means of forming an intelligent opinion as to the present and prospective condition of the markets of the country. ZEN.

Anson, Me., Feb., 1869.

THE CANKER WORM.

The canker-worm made its appearance in this town and Dover year before last, but did no serious injury, but last year it was quite destructive in certain localities. Will you or some of your correspondents inform me through the FARMER what is the best and most economical method to protect the trees against this terrible pest? U. A. ROBERTS.

Rollinsford, N. H., Jan. 28, 1869.

REMARKS.—One of the surest and most economical modes, in our opinion, is to *tar the trees.* Of late a cheap kind of printer's ink is used by many instead of tar. This process will require some knowledge of the habits of the insect, and when begun must be faithfully followed up.

The wooden boxes used and recommended by our correspondent, Mr. G. B. Moulton, of Kensington, N. H., have proved efficient in many cases. Among others we may mention the large orchard of Messrs. F. and L. Clapp, of Dorchester, which has been fruitful for several years past, while others in its immediate vicinity have been badly ravaged by the canker worm. We have seen the trees of this orchard in full foliage and loaded with fruit, while neighboring orchards were entirely stripped, and of course without fruit. Indeed so successful have been these gentlemen by the use of these wooden boxes and oil, that they received a greater amount of premiums on fruit at the exhibitions of the Massachusetts Horticultural Society in 1867 than any other competitors.

We republish Mr. Moulton's description of these boxes and of their use.

"In the spring of 1865 I placed wooden boxes, ten inches high, around all these trees, allowing a space of two inches between the tree and the inside of the box. It would have been better to have left a space of three inches. I filled the inside with tan, and made it solid by pressing it down with a strip of board. The gutter around the boxes was placed about three inches from the top; the corners being made tight with roofing cement; and a clapboard was nailed on the top edge of the boxes, so as to form a roof over the gutter. I filled the troughs with 'bug oil,' which can be obtained in Boston at from twenty to twenty-five cents per gallon. This I prefer to coal oil, because it will not skim over; while the coal oil will skim over in forty-eight hours and afford a bridge for the grubs. There are two kinds of this bug oil—the thin and the thick. I prefer the thick for wooden troughs, as the thin is liable to leak out. When they run the thickest, the surface of the oil needs to be cleared off as often as once in two days. I use a piece of lathe for this purpose, and a tin quart measure with a long lip to turn in the oil.

"The cost of these boxes is not great. I paid seventeen cents a piece for making the boxes, and found the stuff. Any kind of cheap boards will answer. For the gutter two-inch stuff of good quality should be used. I purchased second-hand tubing used for chain pumps which cost two cents per foot. Dividing this, my troughs cost one cent per foot. Some that I had made, cost two cents per foot for making. The clapboard should be of good quality, so that it will not crack by the weather. My trees are very large, and some of my boxes were about ten feet around them. I estimate the boards at seven cents per box—troughs ten cents, and clapboards at three cents—making the whole cost of boxes at thirty-seven cents per tree; and the whole cost of oil, tan, and labor, not to exceed one dollar. For any ordinary orchard, this would not exceed fifty cents per tree. It takes, for troughs of this size, about one quart of oil at a time."

Various other ways have been contrived, all more or less expensive and troublesome, but none have come to our kowledge that are certain preventives, and that are sufficiently economical to justify their use.

HUMBUGS.—USES OF MUCK.

I often see notices in different papers of receipts for making manures; for instance, A. says, "send me five dollars, and I will send you a receipt for making a very valuable manure," &c., &c. Now this may all be very well, and then it may all be humbug; who knows? What assurance have we of the good faith of the advertiser? What we want in this vicinity is a cheap ingredient that we can mix with meadow muck, and make it into a fertilizer. Most of our farmers have plenty of muck on or near their farms. If any of your readers can give the desired information, they will confer a great favor on your subscribers in this part of the State. L.

Winchendon, Mass., Jan., 1869.

REMARKS.—It is a pretty good general rule never to pay money for property until you have seen it. It is far better to purchase wood ashes, lime, damaged potash, saltpetre, &c., and mix with the muck. Any of these things mixed with good muck, will give you a dressing which will soon make your fields glad. But the muck alone is manure. It is nearly all decayed vegetable matter, and if applied and worked in, will soon make a change for the better, even on granite or heavy soils. On sandy loams it will prove highly beneficial at once.

FAILURE OF APPLE ORCHARDS.

I have seen in the FARMER and other papers complaints that apple trees do not bear as they used to do, and I thought I would say a few words why, in my feeble opinion, they do not, especially in this vicinity. One great cause is neglect. The orchards in this vicinity are mostly old and have not had any care, not even the ground ploughed, for over thirty years, and not a shovelful of manure applied to keep up the fertility of the soil; and yet the owners complain that their orchards do not bear as formerly. If we plant any other crop we have to apply manure or none would expect it to pay. I know from experience that it pays to keep an orchard well cultivated, as the last year has proved it to my satisfaction. While other orchards in this vicinity that promised as well in the spring as mine did, bore very few apples, mine was so loaded that I had to prop up the limbs to keep them from breaking down. Mine was cultivated; the others were not. Now I think if farmers would cultivate their orchards as they do the rest of their farms they would in most cases raise more fruit than they do now. J. W. R.

Biddeford, Me., Feb. 25, 1869.

BRAHMA FOWLS AND MUSCOVY DUCKS.

The following is my account for the year past. Owing to the wet season and to cats I lost about 200 chickens and 19 ducks, and consequently my balance sheet shows a small profit:—

Stock, January 1, 1868.		*Dr.*
45 fowls at 75 cts. each	$33 75	
12 ducks at 75 cts.	9 00	
52 late chickens at 50 cts.	26 00	
		$68 75
Cost of Food.		
Bo't 68 bush. corn, $74.80; 38 do. oats, $34 45	109 25	
" 26 bush. meal, $31.80; 26 bush. C. corn, $31.8	63 60	
" 34 bush, fine feed, $16 20; 695 lbs. scraps, $16.54	32 74	
" 12 fowls, $16; 2 Guinea fowls, $2	18 00	
" 4 ducks, $5.50; 1 doz. eggs, 50 cts.	6 00	
" 1 bbl lime, labor and repair	14 49	
Dressing poultry	9 00	
		253 08
Other expenses.		
54 doz. & 2 hens' eggs set, 41c ℔ doz.	22 21	
14 doz. ducks eggs, 44c ℔ doz.	6 16	
		28 37
Total,		$350 20
Stock, Jan. 1, 1869.		*Cr.*
38 fowls at 75 cts. each	$28 50	
13 ducks at 75 cts.	9 75	
4 Guinea fowls, $4; 20 chickens at 50c, $10	14 00	
		$52 25
Stock and Eggs sold.		
152 chickens	101 05	
102 ducks	105 74	
220 doz. hens' eggs, average 41c	90 20	
25 doz. and 10 ducks' eggs, 44c	11 33	
39 bbls. manure	39 40	
		347 32
Used in family.		
53½ doz. hens' eggs, at 41c	21 98	
19 doz. and 1 ducks' eggs, at 44c	8 40	
		30 38
Total,		$429 90
Cost and expenses		350 20
Profit		$79 70

Showing 327¾ dozen hens eggs laid during the year; 59 dozen, less one, duck's eggs; 377 chickens and 121 ducks hatched. It will be noticed that while I sold my Brahma eggs at 41 to 44 cents per dozen, the dealers in fancy eggs were selling at $2 per dozen. JAMES BUFFINGTON.

Salem, Mass., 1869.

MANURE AND SUPERPHOSPHATES FOR POTATOES.

I have just finished assorting my potatoes,—Harrison's, Seedlings and Orono. A part of each kind was raised with Bradley's Superphosphate, and part with barn yard manure only. I have kept them separate in my cellar, and I find those raised with Phosphate are mostly sound, not half a bushel damaged in twelve hundred bushels, while those raised with barn yard manure, are at least one-sixth rotten. The potatoes were planted about the same time and had about equal chances and equal care. Those raised with phosphate yielded at least twenty per cent. more than those raised without the phosphate. Now will some of your scientific farmers tell us the reason of this, and also the reason why so much trouble with rotten potatoes of late years? I raised potatoes before I ever saw Bradley's Phosphate, and had no trouble with their rotting. There must be a cause for this. Please state your views. Is it not because our soils are exhausted of bone and thus fail to give the potato what it requires to make it healthy? V. K. WARREN.

Tufts' Farm, College Hill,
Somerville, Mass., Feb. 12, 1868.

CURE FOR SCRATCHES.

Not quite two weeks ago I found that the horse I am using was very much afflicted about the pastern joints and ankles of both of its fore feet, with what is called grease or scratches. I immediately washed the parts affected with warm soap suds, and wiped as dry as I could, and then bathed thoroughly with benzine, and rubbed it well in with a rag or my hand. I pursued this course daily for about a week, when I found that all the sores on one leg had healed, leaving the skin soft and smooth, and the others had nearly healed. I used my horse nearly every day and did not change her feed only to give two or three messes of potatoes sprinkled with sulphur and saltpetre. It is the simplest and cheapest remedy I have ever found, and I think it might be used as a preventive.

Bernardston, Mass., Feb. 15, 1869. S. BARKER.

QUALITY OF THE HARRISON POTATO.

Of your contributors who have given us their success in raising the Harrison potato, I do not recollect that any one has said much about the quality of them for cooking. I am disappointed in mine. They are not as good as I expected, from what was said of them last year. To obtain the opinion of others as to their quality, I left some of them one week last November with eight or ten of my customers whom I had been supplying with the Jackson white, or more properly the Orono, but without informing them of the change. The next week most of them complained of the potatoes that I left the week before. Some said that they did not cook even; that part of the potato would be hard when the other end was cooked sufficiently. Perhaps under some circumstances they might be grown so as to be a good table potato. They need a long season to ripen well. My vines were green when the blight came, and I think I did not hill them up so much as I should have done. They are disposed to grow out of ground, and many of them are sun-burnt. I shall try them another year. WM. R. PUTNAM.

Danvers, Mass., Feb. 4, 1869.

PROSPECTS AND DUTIES OF WOOL GROWERS.

In your issue of January 30, I noticed an article headed "Wool at the Custom Houses," which closed with this question, "Is it a good time for wool growers' associations to go to sleep?" I answer, no! It is high time to awake and do what we can to protect and encourage wool growing in the Eastern States. We have had a hard time for the past three years, but, in my opinion, we have seen the worst of it, and may expect better times for three years to come, if we are true to ourselves and to our own interests.

In the first place there are not more than two-thirds as many sheep now, throughout this section, as there were three years since.

Secondly, the wool in market is used up closer than usual at this season of the year, with but little remaining in the hands of producers.

While, thirdly, the large stock of woolen goods with which the country has been flooded, has been gradually worked off, leaving a better demand for newly manufactured goods, so the manufactures will have some encouragement to buy wool in the prospect of selling it when worked up.

The wool growing and *manufacturing* interests should be one, for each depends on the other.

A Wool Grower.

Sanbornton Bridge, N. H., Feb., 1869.

THE SEASON IN SOUTHERN MICHIGAN.

January was very warm, and the roads were quite dusty. Some nights froze a little, but thawed out during the day. A sleet came February 1 and 2, so heavy that it was not safe to go into the woods at all; limbs were broken off six inches in diameter. This lasted three days. It has since been so warm that we have doors open as in summer. Hay has dropped from $12 to $8 per ton; wheat from $2.10 to $1.50; pork has risen to $14; money very tight, worth 3 per cent. per month, and not to be had at all times, even on gilt-paper, as it is not here. Hope it will soon be easier.

Hudson, Mich., Feb. 15, 1869. D. M. Briggs.

EXPERIMENT WITH SUPERPHOSPHATE.

In reply to an inquiry by "W. S. A.," in the Farmer of Feb. 6, I will say that I planted half an acre to corn, having first prepared the ground alike. Bradley's superphosphate of lime was used, except on four rows, through the piece, which were a fair average of the ground, on which I did not put the phosphate. As the corn came up, and all through the season, I saw a marked superiority in all the piece over the four rows. When I harvested the corn I found the rows on which phosphate was applied to produce three bushels of ears where the others produced only two bushels, and the quality in every respect was superior. I also used the phosphate on fodder corn and potatoes and the result was as satisfactory as on the corn.

I wish now to make the inquiry, whether the "Norway oats" are so far superior to others as are claimed? What is their value as grain, their yield per acre, and are they more or less liable to lodge on the ground than other kinds?

Edwin House.

Waitsfield, Vt.., Feb. 11, 1869.

YIELD OF NORWAY OATS.

I planted one hundred kernels of Norway oats in two rows one foot apart, and four inches in the row. The greatest product from one kernel was fifty-three stalks, thirty heads, and 6441 kernels.

Timothy Wheeler.

Waterbury Centre, Vt., Feb. 8, 1869.

Experience with Fertilizers.—The special correspondent of the New York *Tribune*, writing from Henry Ward Beecher's farm of thirty-six acres, says:

Mr. Beecher has tried all the phosphates and special fertilizers, but he likes farmyard manure best. Even bone is not of much use with him. From 600 to 1000 loads of manure are put on the place yearly; all that is made is carefully saved, and there are compost heaps of muck and weeds. A good deal of manure is hauled from Peekskill, and considerable quantities of unleached ashes are bought of the farmers at thirteen cents per bushel. When he was asked if the farmers were so ignorant as to sell their ashes at this price, or even at all, he said, "Yes, but *don't print it!*" One who commences with a poor farm must take such fertilizers as he can get.

For the New England Farmer.

AGRICULTURAL AND POLITICAL NEWSPAPERS.

We need a more extensive circulation of Agricultural literature. For instance: I find, upon close examination, that the farmers of Madison take and read three political papers to one devoted to agriculture. Yet the town of Madison is one of the finest farming towns in the State of Maine. The people live almost exclusively by farming.

Do political speakers, political newspapers or political clubs improve the farm or the farmer's mind? My observation leads me to the conclusion that farmers who take more interest in politics than in agriculture are the ones who do not get along the best; and that partizan papers have a tendency to make partizan neighbors. Instances are not uncommon where farmers will not carry their neighbors to town meeting on account of their different political views. Would it not, then, be better to have more agricultural and less political literature circulated among farmers?

This seems to me to be a subject worthy of serious consideration, and this winter a good time to give it a little airing. A farmer can undoubtedly live without an agricultural paper. So also can he live and not grow a sheep, or a hog, or a horse if he keeps oxen, or without oxen if he keeps a horse. Yet good farmers do not believe they can afford to be without sheep, or hogs, or horses, or oxen. *Nor do I believe they can afford to be without an agricultural newspaper any better than without either of the above-mentioned useful animals.*

The day has passed when chance had any hope of contending with science; yet there is more chance farming to-day than scientific farming. I am happy to say, however, that the young men who engage in agriculture for a livelihood, are taking a deep interest in book-farming; but I am sorry to say that their number is small.

It is a notorious fact that the political conventions of the State, the political district and county organizations are largely made up of farmers; and generally by that class of farmers who do not think they can afford to attend State, county and town agricultural conventions or fairs, as they are more commonly called, because they have to pay a small admission fee. But when the committees of the different political organizations call upon these same farmers for funds to prosecute political campaigns, they "come down" with their "filthy lucre" without a murmur. Does any one suppose they would as freely subscribe to funds to promote agriculture?

I find it much easier to induce a farmer to subscribe to a political than to an agricultural newspaper. Will those farmers who read this article investigate the matter, and report the result of their researches through the FARMER?

D. L. S.

East Madison, Me., Feb., 1869.

REMARKS.—In taking or refusing to take newspapers, as well as in all their other actions, men are moved by motives. What then are the motives which determine the choice or move the will in deciding this question? or, in other words, what's the use of agricultural papers? Many would probably reply that the chief benefit of agricultural papers consists in the fact that they make common stock of individual experience and practice; they tell how the best farmers manage their soils, their stock, their manure; what crops they grow and how they cultivate them; what implements they use, what teams they employ, what markets they find.

All this is important and valuable, but has not the agricultural press a still higher purpose in the promotion of the social interests of farmers? Farmers are becoming a power in the land. Their right to be heard in our State and national councils is recognized. The effects upon their interests of measures of public policy is considered by the law makers of the land. The agricultural paper should therefore become the organ and the advocate of these interests, and the opponent of whatever is calculated to affect them injuriously.

The commercial and manufacturing interests of the country not only recognize the importance of employing the press to advocate and defend their interests, but they patronize it liberally for so doing. "The gods help those who help themselves," and unless farmers recognize this use of agricultural papers can they expect their cause to prosper? The tone of the city press generally on the subject of the renewal of the so-called Reciprocity Treaty shows very conclusively what farmers can expect from papers that are sustained by the commercial and consuming classes. The Boston *Daily Journal*, for instance, has not only steadily advocated the renewal of that treaty, but in a leading editorial of its issue of Feb. 17, headed "Brussels and Belgium," it urged the importance of cheapening food for the crowds that congregate in cities, in a manner that we think must be refreshing to its patrons in the country who are producing this food. In speaking of Belgium, the editor of the *Journal* says:—

> She has sent in one year thirty thousand tons of rails to Russia, and while we exclude the *cheap wool from the basin of the La Platte, the plains of Australia and the savannahs of Africa*, by a duty of twelve cents a pound, or a hundred per cent., Belgium admits it free and sends the cloth to New York or Canada to supply our citizens with clothing. It has been the policy of Belgium to keep down the cost of production by *keeping down the cost of food*, clothing and materials. . . . Under great disadvantages, by the superior education, skill and ingenuity of our people, they have already begun to send again their drills and sheetings to Asia and Africa. This trade is capable of indefinite expansion, but to expand it they *must have cheap wool, iron, steel, cheap potatoes, alewives and herring*, of which they are now deprived by war duties, injurious to revenue, and almost prohibitory in their effect on commerce.

Under the present prices of farm produce, which the *Journal* thinks should be reduced, farmers find it difficult to keep their sons and daughters at home; farms in the interior of New England are offered "for less than the buildings and fences cost," and the increase of population is confined to the commercial and manufacturing centres. What, then, would be the effect of lower prices? of the *Journal* writer's wool at 12 cents per pound, of butter at the same price, beef at $6 per 100 pounds, and potatoes at a shilling a bushel? What sort of newspapers, then, should farmers take?

For the New England Farmer.

DISCUSSION ON MAKING SUGAR.

WESTMINSTER, VT., FARMERS' CLUB, Feb. 15, 1869. Want of room compels us to condense the report furnished by M. W. Davis, Secretary.

N. G. Pierce, Esq.—"Neat and quick" are the watchwords. First I would have tin buckets, if necessary to buy new; but as most have wooden ones, keep them painted, especially the inside, using raw oil and venitian red. Do not attend auctions and buy old musty buckets. I prefer the wooden spout. The bit of half inch, boring three inches deep. I think the amount of sap drawn from the tree, depends more upon the depth of the hole than size. Now if your sap runs through *clean* spouts, into *clean* buckets, conveyed in *clean* holders, boiled in *clean* apparatus, sufficient so as not to need much storage, keeping everything *out* of the sap rather than strain to *get* it out, making it into sugar the same day, (not let your syrup stand or cool, for it turns red) and you have white sugar. I have a heater and one pan, and can boil sap enough for 100 pounds sugar in a day.

Orestus F. Peck.—I tap my trees only when it is a *sap* day. I use ⅜ bit and sumac spout. I consider them the best. I scald them in lime water when done using, to neutralize the acid generated by the absorption of sap, and before using run a hot iron through them which chars them, tending to purify as well as to retard the ingress of the sap to the wood of the spout. I prefer the small bit to the larger, because the hole being smaller does not dry up as readily. I boil my sap into syrup every day, and it is best when boiling to drive it as fast as possible and steady, for if it occasionally cools down it colors. I then strain and let it stand 12 to 24 hours before sugaring off. Then I turn off the syrup from the sediment. In the early part of the sugar season

I put nothing into my syrup to cleanse it. Later in the season, when sap runs a little white from the bucket, I use 3 eggs to 1 pint of skim milk. When testing to ascertain whether done or not (if for caking) in raising the dipper as it runs from it, leaving long hairs I call it done. If for tub not do it near as much. Remove from the fire letting it stand, and stir rapidly, which avoids that glassy appearance seen upon the outside of the cake, in turning immediately into the moulds. To have nice tub sugar, enough should be sugared off at once to fill the tub, for if filled at two or three different times, a glassy coating is formed between each layer which obstructs the draining. When it comes warm weather, turn the tubs bottom upward and from 100 lbs. you can get 70 or 75 lbs. of fine sugar. I see no difference in sugar made from trees standing in lime rock soil or where the peroxyde of iron exists, rendering the soil of a red cast. My apparatus for boiling consists of two pans, two barrels each, and one heater in one arch. My arch is not high enough; it should be 18 to 20 inches above the grate; my heater heats too rapidly and runs over; it is ten feet from mouth of arch to the heater. I would have the arch all the way of a depth. I think my heater increases the boiling one-fourth. I can boil from 5 o'clock in the morning till 10 at night, 16 barrels. or 25 barrels in twenty-four hours.

Mr. N. G. Pierce did not agree with Mr. Peck as to the use of eggs and milk.

S. Peck.—Trees differently located produce different sap.

Henry Floyd.—I would use half-inch bit, boring three to four inches in large trees, using the sumac spout, for I think it the best; the metallic spout is not stiff enough. One reason of black sugar is, much sap is boiled in coarse iron. Boilers should be of fine material and polished to make white sugar.

Sylvester Grout spoke of the dust that is constantly accumulating in sugar houses. Should be floored over head and kept as nice as your kitchen. He thought different sugar-bushes produce different sap, and make different sugar.

T. W. Wiley.—For some ten years, I used three-fourths bit, with two spouts to a bucket, but now use five-eighths bit, one spout, think I can get as much sap. Bore from two to two and a half inches deep. I think the quicker we can get sap into sugar the better. I like to have it strained either at the holder or at the heater. I strain my syrup through a woolen strainer. I prefer syruping down twice a day. I never put anything into syrup to cleanse it. If you put in milk the sugar is apt to sour in hot weather from the particles left in it.

O. Peck.—Two spouts will run as much again as one, and if the tree is good size, you may put two, three, or four buckets to a tree. I knew of a tree that run 16 pailfuls in one day, into ten buckets. I would not use the metallic spout, as it tends to conduct heat from the sun to the sap. Spouts should fit in the bark, and not the wood.

S. Grout.—I intend to tap under a large limb or into a large root when convenient. I think trees make wood faster that are habitually used for sugar trees.

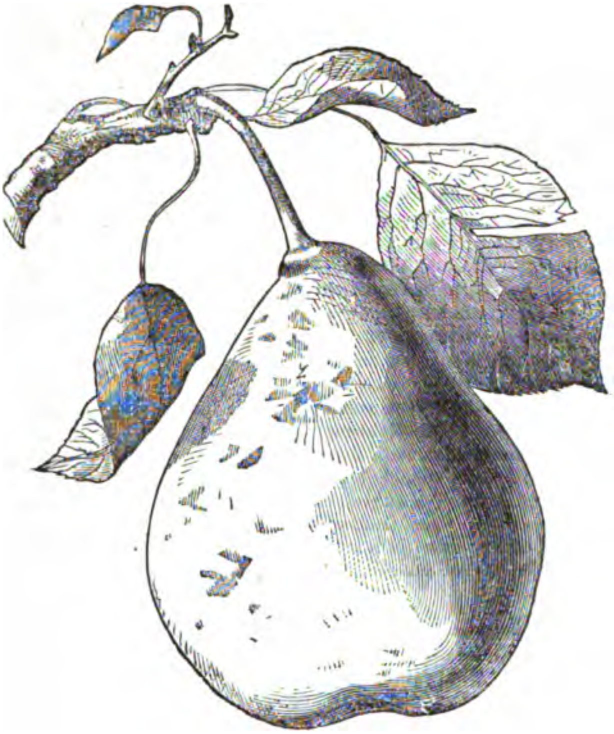
Pierce.—I think in the fore part of the season, a tree should be tapped high, later in the season, tapped low.

F. G. Butler.—Wood never should be kept in the same apartment with the boiling, but in an adjoining one at the mouth of the arch. If kept in the same it gathers dampness, making poor fuel as well as dirt. Should use Post's Patent Spout as it keeps clean.

AN EXCELLENT FERTILIZER.

We advise our readers, those who have farms and gardens to cultivate, to prepare as large a quantity of the fertilizer we suggested and recommended in the April No., Vol. II., of the *Journal*, as they possibly can. It embraces in its composition quite every element required in the growth and maturation of roots and the cereal grains; and it has the advantages of being comparatively cheap and easily prepared. No fertilizer we have yet devised —and we have prepared and experimentad with a large number—affords more certain and satisfactory results than this one; and those who prepared and used it last season are extravagant in their praises of it. It supplies a most desirable dressing for fruit trees and vines. We use no other fertilizer for our grapes; and if any of our friends have had better results in their cultivation than we have, it will afford us pleasure to publish their successes. The method of preparing the fertilizer is as follows:—

Take one barrel of pure, finely ground bone, and mix with it a barrel of good wood ashes; during the mixing, add gradually about three pailfuls of water. The heap may be made upon the floor of an outbuilding, or upon the barn floor; and, by the use of a hoe, the bone and ashes must be thoroughly blended together. The water added is just sufficient to liberate the caustic alkalies, potash, and soda; and these react upon the gelatine of the bone, dissolving the little atoms, forming a kind of soap, and fitting it for plant aliment. It must be used in small quantities, or in about the same way as the so-called superphosphates. A barrel of this mixture is worth two of any of the commercial fertilizers, and the cost will be but about half as much. It remains to be added: if the bone meal and ashes are very dry, four pailfuls of water may be required, but care must be exercised not to have it inconveniently moist. It will be ready for use in a week after it is made. *Pure, raw, finely-ground bone* and the best of ashes should be employed.—*Boston Journal of Chemistry.*



THE TYSON PEAR.

The original tree of this variety of pears grew in Jenkinstown, Pa. The fruit from which our cut was drawn and engraved was selected from an ample basket of the ripened fruit grown in Dorchester. The tree from which the fruit was plucked sprung, we understood, from the first scion set in Massachusetts, cut from the original tree. We found them to be delicious. Mr. Thomas, in the new edition of his *Fruit Culturist*, gives the following description of the Tyson. "Size medium, conic-pyriform, sometimes approaching to obovate; bright yellow, with a reddish brown softly shaded cheek, often some russet; stalk an inch and a fourth long, inserted into a fleshy prominence abruptly contracted from the rounded neck; basin very shallow, even; flesh of fine texture, buttery, very melting; flavor nearly sweet, aromatic, slightly perfumed, excellent. Ripens the last two weeks of summer. Shoots quite dark brown, erect, vigorous. The tree does not come soon into bearing."

THE MICHIGAN AG'L COLLEGE.

A few weeks since we copied as an "agricultural item" a little paragraph to the effect that the President of the Michigan State Agricultural Society condemned the system of instruction pursued at the Agricultural College of that State. We have since seen that address more at length.

After remarking that "our farmers are to a large extent educated, and as a general rule the best educated are the most thrifty and successful," Mr. Beckwith, President of the Society, said, "frequent conversations with men of good judgment in various parts of the State induce me to believe that the time has come when something should be done to rescue the College from the policy which deprives it of public sympathy and support;" that "not more than one in four of the young men who graduate there embark in agricultural pursuits after leaving school," and intimates that "the general management or course of study tends to shut out the sons of small farmers or those in limited circumstances," &c.

We have also received a reply to these strictures, in a letter addressed to the Detroit *Advertiser and Tribune*, by T. C. Abbott, President of the College, together with his Annual Report on the state of the College, addressed to the Superintendent of Public Instruction of the State.

In his annual report President Abbott congratulates the Legislature of Michigan on having adopted a wiser course than many other States in giving the control of the College to a Board of Managers of only eight members. But if the harmony of action on the part of this board, which it is claimed has always existed, has been the result of this small number, are we justified in the conclusion that the want of co-operation on the part of a voluntary association of the farmers of the State, which is popular enough to have received $16,000 during the past year, is owing to the same cause? It is certainly very desirable that there should be no antagonism between the Agricultural Society and the Agricultural College of any State, and we should deem almost any compromise justifiable which might be necessary to secure co-operation between these two bodies.

With no disposition to intermeddle with the controversy which has existed for some years between these two institutions in Michigan, we have gleaned the following facts from the report of the President of the college, for the purpose of showing what this pioneer institution has done, and what it is now doing.

The number of students the past year has been 82, with an average attendance of 80; viz.: in the Senior class 10; Juniors 13; Sophomores 23, and Freshmen 34. There has been no preparatory department the past year. The average age of the Seniors is stated at 21 6-10; Juniors and Sophomores, 20 4-10; and Freshmen, 18 8-10. During the past seven years 34 students have been graduated, 10 of whom received their diplomas at the last commencement—showing an average of four graduates per year for the six years preceding the present.

Of these 24 graduates, 8 are farmers, another owns a farm which he is clearing from his earnings as a teacher, and which he expects to work himself. Four are instructors in other agricultural colleges, and a fifth was for four years a professor in this college, but is now engaged in other pursuits. One graduate is a machinist, one a surveyor, two died in the United States service, and the remaining five are engaged in teaching or other callings not considered industrial. Three of the graduates named as professors have charge of farms, gardens, teams, &c., and should perhaps be classed as farmers. The occupations that will be chosen by the ten graduated this year are not yet known. Many students have taken only a partial course. Of the 82 students, 60 were sons of farmers.

There has been no unruly conduct, no rowdyish noises or pranks, or occasion for discipline for such conduct during the year. The students have had free and unwatched access at all times to the ripening grapes, muskmelons, watermelons and other fruits, and no instance of meddling with them has been known.

All the students labor, except when exempt for physical disability. Consequently there is no caste in the college arising from difference in this respect. The regular hours of labor are from half-past one to half-past four each afternoon, Saturdays excepted, when labor is furnished only on request.

The officers of the college work with the students. The professors of agriculture, and horticulture, and of Chemistry are often seen in the college fields and shops, with implements, teams, tools, in almost every variety of labor. The President says:—"I believe there is not an officer of the college who has not been used from childhood to labor in gardens and orchards, and to have the care of horses and cattle, and all but two of them were reared on farms." Lectures are not infrequently given in the field, or yards where the stock is kept. The students work cheerfully, as most of them were accustomed to labor before entering the college. Good workers receive from 7 to 7½ cents an hour. The great variety in the labors required, and their relation to their studies, serve to interest them, and they often manifest a strong interest in furthering the work to be done. ***The best scholars are almost always the best workers.***

The farm, gardens and lawns cover an area of 676 acres; the apple orchard 16 acres; four farm fields 67 acres; pasture 20, and nearly 80 acres contain the lawn, buildings, gardens, &c. The soil is exceedingly various. Additional buildings are needed for the students and for the farm.

This college went into operation in 1857, long before the congressional grant; has not as yet received any income from that grant, but has been supported by legislative appropriations. Its share of public lands is 240,000 acres. The subject of their disposition is now before the legislature. We are also told that the House of Representatives of the Legislature now in session have a Committee on the Agricultural College. A majority are said to be farmers, and the chairman to have been raised on a farm. This committee lately made a report to the House ***highly commending the College.***

HEREFORDS IN MAINE.

Mr. Sanford Howard, of Lansing, Mich., having noticed the purchase by Messrs. Burleigh and Shores, of Fairfield, of Mr. Cochrane's herd of Herefords, says in the *Maine Farmer*:—

'I think the farmers of your State may be congratulated on this acquisition. In some sections of Maine, considerable experience has already been had with the Herefords,—I think they have generally done well. Indeed, it appears to me that their characteristics render them specially adapted to the purposes for which cattle are largely used in the State. For working oxen, they stand in the first class, possessing nearly the activity of the Devon, with at least as good hardiness, and with weight enough for any kind of labor. When they have served their time at the yoke, they will fatten very easily, and produce the first quality of beef. If not wanted for work, they will fatten at as early an age as any cattle, if reared and treated in the same way. For milk, they are as good in point of quantity, as any breed having an equal tendency to fatten, and their milk is of extra richness.

Mr. Cochrane's stock, through the herd of Fred Wm. Stone, Esq., of Guelph, Ontario, traces to the herds of those eminent English breeders, the late Lord Berwick and Lord Bateman, and thence to herds which were famous more than a hundred years ago. Before Lord Berwick's death I spent a day with much satisfaction, in examining his three hundred Herefords.

The bull Compton Lad is an animal of extraordinary symmetry, very heavy in proportion to his bulk, having very thick flesh of excellent quality, laid evenly over his frame, forming such a carcase of beef as butchers who cater to epicurean palates like to obtain. At the same time, all his points indicate health, a strong constitution, and great muscular strength. I shall expect that oxen bred from him and the right kind of cows, will be able to perform as much work, either in the ploughfield or "logging swamp," as has ever been done by any cattle.

Many of the cows and heifers of the herd are very fine, and those who see them in the condition in which they left Mr. Cochrane's farm, must be satisfied that they are able to carry *weight on their backs* to a remarkable degree.

SCAB IN SHEEP.

In connection with our remarks last week in reply to an inquiry by Mr. Jetter of Bradford, Mass., for a remedy for the Scab in sheep, we copy the following from the recently published book on "The Diseases of Sheep," by Dr. H. Clok:—

Six pounds of burnt, unslacked lime must be slacked by sprinkling water upon it in a proper vessel, to which six pounds of potash and ten quarts of water are to be added; this mixture must be boiled and well stirred for about an hour. When this lye has been boiled sufficiently, eight pounds of pine oil and two quarts of tar must be added and well stirred into the same. In another and larger vessel twenty pounds of tobacco-leaves must be boiled in one hundred and thirty quarts of water for two or three hours, after which this decoction is to be thrown into a large tub (the tobacco-leaves are thrown away as worthless). To this decoction the above-described lye is to be added, and both must be well stirred and mixed together. The remedy is then ready, the quantity being sufficient for one hundred sheep.

It must be applied in the following manner: The sheep must be laid sideways upon a board of sufficient size, one assistant holding all four legs of the animal, another assistant pressing its head down and parting the wool lengthwise from the ear to the upper part of the hind leg, the parting line remaining about three or four inches distant along the middle of the back. Another assistant applies the lye or wash (which must be of a temperature of about 110° or 120° Farenheit, or warm enough to suffer the hand to touch the same) by means of a sponge or bottle along the parting line, so that the fluid will flow into the separated fleece. The animal must then be turned over and the lye applied in the same manner upon the other side. After this the animal must be put upon its feet, the wool parted straight along the middle of the back, beginning at the neck and ending at the tail.

A quart of lye is sufficient for each unshorn sheep. The part of the skin covered with scurf is to be cleaned by means of a dull knife or by the finger nails, and separately supplied with said lye. As the wash or bath adheres to the skin in a uniform manner, there is no necessity of further rubbing the same into the fleece.

In case the disease is of an obstinate character, the remedy must be applied again in the same manner in about eight or ten days, whereby a greater security against further damage is obtained.

Such a treatment requires very little time; from five hundred to six hundred animals can be washed in one of the shortest winter days. The lye should be kept sufficiently warm during the operation. This lye recommends itself not only by its efficiency, but also by its cheapness, the outlay being very small in comparison with the value of its benefits.

SANBORN HILL.

Some of our readers may perhaps remember a suggestion made last year by Mr. John L. Sanborn that the name of this locality, in West Springfield, N. H., be changed to Sugar Hill. The reasons assigned, were the fact that most of the Sanborns by whom the hill was first settled had left, and that five of the eleven families that now occupy the old farms made last year 80,154 pounds of sugar. Believing that the process of manufacture adopted by the experienced sugar makers of "Sugar"

Hill, will be interesting to all who own a sugar orchard, we copy the following article from the *Mirror and Farmer*, written by "J. L. S.:"—

In reply to "Querist" in regard to cleansing molasses hogsheads for sap holders, I would say that I never found any way to make them as good as holders made on purpose for sap and never used for anything else.

I keep my buckets and holders in a perfectly dry place when not in use, and never use them for anything but sugar making. When ready to use them in the spring, thoroughly wash and scald them and repeat the process when I take them up.

My way of tapping is to use one-half or five-eighths tapering bit, bore the hole one and one-fourth inches. Have usually used a pine spout whittled slant so it will not go into the tree so as to cover any of the grains. Have a holder with two heads to gather the sap in, with a cover on top to turn the sap in. Draw to camp with oxen. Use sheet iron pans set in a brick arch, one pan set in front of the other. The front pan has an iron grate under it, so all the ashes fall out of the way. Use wood four or five feet long Let sap run into front pan and dip into back pan as fast as needed. Boil until I get about six barrels into the back pan, then let it boil gently until it is the right thickness, what you would call thin molasses; then strain in holders made for the purpose, that will hold ten or twelve gallons, made about two and one-half feet high. Let it set over night, turn it off carefully the next day and do it down to your liking. Do it off in a flat pan made for the purpose. One that will hold eight gallons is large enough for 200 trees.

For the New England Farmer.

FARMERS' CONVENTIONS.

The meetings which have recently been held in Massachusetts, New Hampshire and Maine for the purpose of promoting the progress of American agriculture have awakened a deep interest in the subject, not only in the minds of those present, but I trust also among the multitudes who have read the reports of those gatherings. It has not been my privilege to attend either of those meetings; but it seems to me that no plan has yet been devised to advance agricultural interests that will at all compare with it in its general utility to the farming community.

Our State and county societies at their fall exhibitions have done much to stimulate farmers in the way of raising good stock, vegetables, fruits, &c., but these conventions embrace a much wider and deeper range of objects, and are calculated, if rightly improved, to meet every want of the farmer, enlightening his path through every step of his progress. Judiciously managed they will serve to remedy in no small degree the inconvenience farmers have so long labored under, of working single handed and alone, and give them advantages which other callings enjoy of combined effort and unity of action.

Agriculture in this country has occupied in some respects an unnatural, dependent position. With a certain class neither farming nor farmers are appreciated as the merits of their calling, or the merits of their own standing and influence in society demand. This must be remedied in great measure by farmers themselves. They must awake, not only to the magnitude of their calling, but to *the magnitude of their power*. They need to come forth from their back-ground retreats, and stand fearlessly in the front, asserting manfully their rights. Their voice should be heard in our legislative halls, and heard in such a way as to be heeded. We need at this moment a general expression from the whole farming interest, on the subject of a Reciprocity Treaty. Not only our wool interest but every farming interest needs to be carefully guarded. This can easily be accomplished when farmers learn to act in concert, and I know of no way to secure this result so effectually as through agricultural conventions.

But it was not my object to write a paper setting forth the good results of these conventions, (this is already well understood;) but to suggest through the columns of the N. E. FARMER the propriety of holding similar conventions, once a year at least, in all our counties; not to interfere with State conventions, but rather as auxiliary to them; not to supercede those county societies now formed, or in any way to interfere with our annual exhibitions, but to make those societies more efficient, and those exhibitions more profitable. Perhaps the same organizations would answer for one, as for the other, and the same officers plan and preside in each.

In most of our small towns, with scattered population, it has been found impracticable to sustain for a great length of time a good farmers' club. These county clubs or conventions would naturally awaken a deeper interest among the masses by bringing out men capable of speaking on the various subjects assigned them. We have in all our counties, intelligent farmers who are qualified to discuss with profit the various questions that would naturally arise at those meetings. Our best farmers would thus be brought together, the best methods of production and cultivation be brought out, and the best plans devised for the mutual good of all. J. F. FRENCH.

North Hampton, N. H., Feb., 1869.

GOOD YIELD.—Mr. A. M. Foster of Calais, Vt., raised the past season, forty-five bushels of wheat on one acre of ground, from two bushels of seed. *

Ladies' Department.

LOVE LIGHTENS LABOR.

A good wife rose from her bed one morn,
  And thought with a nervous dread
Of the piles of clothes to be washed, and more
  Than a dozen mouths to be fed.
There's the meals to get for the men in the field,
  And the children to fix away
To school, and the milk to be skimmed and churned;
  And all to be done this day.

It had rained in the night, and all the wood
  Was wet as it could be;
There were puddings and pies to bake, besides
  A loaf of cake for tea.
And the day was hot and her aching head
  Throbbed wearily as she said,
"If maidens but knew what good wives know,
  They would be in no haste to wed!"

"Jennie, what do you think I told Ben Brown?"
  Called the farmer from the well;
And a flush crept up his bronzed brow,
  And his eyes half bashfully fell.
"It was this," he said, and coming near,
  He smiled, and stooping down,
Kissed her cheek—"'Twas this, that you were the best,
  And the dearest wife in town!"

The farmer went back to the field, and the wife
  In a smiling and absent way,
Sang snatches of tender little songs
  She'd not sung for many a day.
And the pain in her head was gone, and the clothes
  Were white as the foam of the sea;
Her bread was light, and her butter was sweet,
  And as golden as it could be.

"Just think," the children all called in a breath,
  "Tom Wood has run off to sea!
He wouldn't, I know, if he only had
  As happy a home as we."
The night came down, and the goodwife smiled
  To herself, as she softly said:—
"'Tis so sweet to labor for those we love,
  It's not strange that maids will wed!"

HOUSEHOLD ECONOMY.

CONTRIBUTED FOR THE NEW ENGLAND FARMER.

A correspondent desires a receipt for making Lemon Pie.

MESSRS. EDITORS:—It was my good fortune some years ago to eat, what was called, a Yankee lemon pie. It was delicious, and I have always regretted that I did not obtain the recipe, and in looking over your list of receipts for all sorts of nice things, it occurred to me that you might be able to obtain what I desire. This pie was very delicious, as I said, but very simple in *construction*. I know it contained apples (chopped), molasses and other good things, but this is all I know. Please make enquiries through your paper and oblige A READER AND SUBSCRIBER.

Irvington, N. Y.

CODFISH.—With the advent of the cold of winter, codfish comes into season. There are those who like this fish during the warmer months; but commend us to a deep sea-cod, caught in cold weather—one which, when cooked, exhibits the flesh separating from the bone in solid flakes that retain their white curvatures as they are distributed by the carver. Even the very scraps left of the cod may be utilized, and made a most savory dish. Pick the flakes of fish away from the bones and skin before they get cold. When wanted, put them into a stewpan with what is left of the sauce (oyster, anchovy, or other) with which they were originally served. Add a dozen or more fresh oysters and their liquor. If those are not enough to moisten the fish (and it only requires to be just moistened), make up the deficiency with a spoonful or two of melted butter. Warm very carefully over a gentle fire; when once hot through set it aside. Surround your dish (previously well-heated) with a wall of delicate mashed potatoes, so as to leave a hollow in the middle. In this hollow deposit your warmed-up fish, with its sauce. Sprinkle, over the fish only, grated bread crumbs or biscuit raspings; set it for a few minutes in a sharp oven or under a salamander; and, when nicely browned on the top, serve.

Fried cod is not sufficiently used in this country. Slices two inches thick, done with eggs and crumbs, and fried a light brown, in plenty of fat, are delicious.

FISH CHOWDER.—The best fish for chowder are haddock and striped bass. Cut the fish in pieces an inch thick and two inches square; take six or eight slices of salt pork; put them in the bottom of an iron pot, and fry them till crisp. Take out the pork, leaving the fat; chop the pork fine. Put in the pot a layer of fish, layer of split crackers, some of the chopped pork, a little black and red pepper, a little chopped onion, then another layer of fish, split crackers and seasoning. This do till you have used your fish. Then just cover the fish with water, and stew slowly till it is tender; thicken the gravy with pounded cracker; add catsup if you like. Boil up the gravy once, and pour over the fish; squeeze in the juice of a lemon. Add salt if necessary.

COOKING DRIED APPLES.—Wash sour dried apples, being careful to do it quickly, and put in a porcelain kettle. Have ready a tea-kettle of boiling water, and pour over them, filling your preserve kettle. Cover closely, and as they require more water add boiling. When they are cooked tender, ready to pour out, have about the proportion of three pints of juice to three quarts of the apple. If they are boiled too dry they will be strong and unpleasant, if too much is left in it—insipid. Do not sweeten while warm, but as you wish them for the table—a tablespoonful of sugar to a vegetable dish full of the sauce. Dried apples, in this fruit-growing country, are not usually counted among the luxuries of the table, but in this year of scarcity they will be found exceedingly palatable, prepared in the above manner—having much the flavor of the fresh fruit. If you wish them "extra" nice, add grated lemon peel, from a lemon partly dried, at the same time with the sugar. For pies, sift as pumpkins, adding small bits of lemon or orange peel.—*Germantown Telegraph.*

APPLE ROLL OR APPLE PUDDING.—Make a paste with one-fourth of a pound of butter to one of flour mixed with water, not very stiff. Peel and slice rather thick, tart apples; roll the paste very thin, or as thin as the bottom crust of a pie, spread the apples on a crust so as to cover it, dredge on a little flour and roll it as tightly as possible. Cut the ends even and put it in the steamer, or wrap it in a thick cloth and boil it. It will take one hour steady cooking. Serve with butter and sugar. Cut it in thin slices from the end when serving.—*Western Rural.*

DELICIOUS BREAKFAST CAKE.—Sweet milk one quart, one and a quarter pints of fine sifted Indian meal, two eggs, and a little salt; bake forty minutes in a quick oven, bring to the table while hot, and serve with butter.

Good Breakfast Rolls.—A hot roll for breakfast is a most toothsome article of diet, when made right, otherwise they are only fit for the pigs. I make mine as follows, and I think them hard to beat:—Take two quarts of flour, make a hole in it and pour in one pint of curd milk that has been boiled with one cup of butter melted in it, and half a cup of good yeast. Let it stand without mixing two or three hours; then salt and knead it and let it rise again in the pans before baking. Bake in a quick oven about fifteen minutes.—*Germantown Telegraph.*

Stewed Oysters.—We take from an exchange the following, which is worthy of trial:

We suppose that nine out of ten housekeepers will contradict us point blank in a statement that nine out of ten of them do not know how to stew a dish of oysters. By the ordinary routine that nearly every one follows, either the oysters are stewed and shriveled out of all semblance of themselves in shape, size and flavor, or else the soup and "thickening" has a raw taste that spoils it. Here is the right method. Try it once, and we'll warrant you won't need telling the second time. Pick the oysters out of the juice with a fork, as dry as possible; stew the juice, thickening milk or water, of which the soup is to be made, until thoroughly cooked; then drop the oysters in, and just as the cooled soup begins to show signs of simmering, empty out altogether, and you will have rich soup and plump oysters, luscious enough to make you think you never tasted real oysters before.

PINS.

In the thorn, Nature has provided man with the pattern and the first idea of the pin. When Adam and Eve, after their fall, but before their expulsion from Eden, made themselves aprons of fig-trees, they doubtless used the thorn in the construction of their first garments. In the days of innocence there was no use for pins; and it was probably this fact which caused Byron to describe Juan when, metamorphosed into Juanna, he or she is unrobing in the seraglio, as

> "Pricking her fingers with those cursed pins,
> Which surely were invented for our sins,
> Making a woman like a porcupine—
> Not to be rashly touched."

The pins thus anathematized by the poet are, however, comparatively a modern invention. In all the records which we have of man's past history we find evidence that articles for fastening clothes always existed, but very unlike the present. In the museums which have been formed out of the ruins of Herculaneum and Pompeii, or Uriconium in England, we find skewers of bone, of brass, of silver, of gold, which were used for this purpose. In the representations of the life of the people found in the Egyptian hieroglyphics we discern the means which they employed for like necessary purpose; but nowhere do we meet with a modern pin. In Strutt's illustrations we find ribbons, loop-holes, laces with points and tags, clasps, hooks and eyes, of every form, size and variety of use, and often turned to very extraordinary and surprising account in completing the toilette of the ancient belle and adornment of the ancient beau. The modern pin would have been of little use in sustaining that towering head-dress, in fastening that wonderful cloak, in keeping up those curiously slashed tunics, or in retaining the stiff uprightness of that extraordinary ruff. After pins came into use these eccentricities of costume and fashion were destined to give place to other fashions, in which, perhaps, the modern pin has played tricks as fantastic as its many substitutes in the olden time.

History tells us that iron-wire pins were first introduced into England in the year 1460. The finer examples of brass manufacture required a queen to procure them. They were brought from France by the beautiful Catharine Howard, one of his wives whom the "great" Henry VIII. beheaded. But though introduced by a queen, and doubtless at first an article exclusively applied to aristocratic uses, they soon became a measure of value for things not valued at all. "Not worth a pin" is a proverb which we find in use soon after their introduction. Thomas Tusser, who wrote about 1550, writing of a not very reputable character, says:

> "His fetch is to flatter, to get what he can,
> His purpose once gotten, a pin for thee then."

And Shakespeare makes Hamlet show his utter indifference to life by saying:

> "I do not set my life at a pin's fee."

At the present time millions of these useful articles are wasted in a year.

We find pins first mentioned as an article of commerce in a statute of 1483. From a law passed in the reign of Henry VIII. we meet with some specific description of the kind of pins made—at least, of what they ought to have been. For instance, it is declared to be the will of the Legislature that "no person should put to sale any pins but only such as shall be double-headed, and have the heads soldered fast to the shanks of the pins, well smoothed, the shanks well shapen, the points well and round filed, canted and sharpened." A pin possessing these qualities would not be a bad pin even now.

WOMAN.

In a recent speech Mr. Gladstone drew a distinction between the word womanly and womanish. Womanly is almost a reverential epithet. It implies goodness, tenderness, fidelity. "Unwomanly rags" was the strongest phrase Hood could find for expressing a garb which unsexed its wearer. An unwomanly woman means a monstrosity; while true womanly pity, or real womanly sympathy, is a something which goes straight to the heart of all who have suffered, or are suffering. To be womanly is consistent with talent and genius, though there are many clever women whose womanliness is not preeminent. In short, to be womanly should be the first grace of woman; and the epithet, if applied to men, as it is in rare instances, and under circumstances which are exceptional, conveys an impression of goodness of heart, of a nature unspotted by the world, and of trustworthiness unsullied and complete. Womanish is the reverse of all this. It conveys the Oriental or brute notion of women: puppets, coy, frightened, useless, and without soul or brain—creatures to be used as playthings by the superior animal, and to be thrown aside—beings whose humanity is devoid of all that makes humanity holy; such are the womanish women of the sensualists of the East—such is the contemptuous meaning the adjective bears here. To speak of an Englishman as womanish is to hold him up to the bitterest contempt.

Youths' Department.

From the Riverside Magazine.

"TELL ME A STORY."

A little girl laid her doll to sleep;
Covered her open eyes from sight:
"My dolly must very quiet keep,"
She said; "I'm playing that it's night."

Then close to her mother's side she came,
Saying, with pleading voice and look,—
"Tell me a story, won't you, please?
A story that isn't in any book."

The mother smiled, and her needle drew
Slower a moment: "Let me see;"
Then, backward and forward, through and through,
The needle glanced: "What shall it be?"

"O let it be any thing, mother dear!
Something very pretty and nice;
Something I never have heard before;
Something short: you can tell it twice."

The mother shook her head, and the smile
Broke in a merry laugh, "You ask
For 'any thing,' yet it seems," she said,
"You really set me quite a task."

Did you ever hear of the charmed lake?
The frozen duck, and the frozen drake?
The frozen trees that grew by its side?
The frozen king, and the waiting bride?

The little boy, who, living alone
In a little hut of dull gray stone,
Strolled into the woods one summer day,
And met with a merry woodland fay,
Who all in a laughing whisper, spake
The hidden charm of the frozen lake?

How the little boy, with courage true,
Did whatsoever there was to do;
Killed a great giant, a lion slew;
Twice seventeen riddles guessed or knew:
Long sought a fountain that rippled far;
Stole a stray beam from a fallen star;
Mounted a ladder that reached the sky;
Seized an eagle that, hurrying by,
Carryed him close to the burning sun,
Where finding, at last, his labors done,
He dropped at once with the burning key
Before the king on his bended knee?

Lo! wide flew the frozen portals wide:
'Arise!' cried the king; 'uncharmed, the bride
Awaits the one from icy thrall
With the burning key has freed us all!'

Now happily long, in pomp and state,
The brave boy lives with his lovely mate.
For, once on a time, the merry king
Melted away to a bubbling spring;
The glittering crown that graced his head,
By the little boy was worn instead."

Into her mother's face with a sigh,—
A sigh of pleasure, not of pain,—
The little girl looked with kindling eye,
"Tell me the story once again!"

THE TROUT, THE CAT, AND THE FOX.

A FABLE.

A fine, full-grown trout had for some time kept his station in a clear stream; when, one morning, a cat, extravagantly fond of fish, as cats are wont to be, caught a glimpse of him, as he glided from beneath an overhanging part of the bank, toward the middle of the river; and with this glimpse, she resolved to spare no pains to capture him. As she sat on the bank waiting for the return of the fish, and laying a plan for her enterprise, a fox came up, and, saluting her, said, "Your servant, 'Mrs. Puss, a pleasant place this for taking the morning air; and a notable place for fish, eh!" "Good-morning, Mr. Reynard," replied the cat; "the place is, as you say, pleasant enough. As for fish, you can judge for yourself whether there are any in this part of the river. I do not deny that near the falls, about four miles from here, some very fine salmon and other fish also are to be found." At this moment, very inappositely for the cat's hint, the trout made his appearance; and the fox, looking significantly at her, said, "The falls, madam! perhaps this fine trout is on his way thither. It may be that you would like the walk; allow me the pleasure of accompanying you?" "I thank you, sir," replied the cat, "but I am not disposed to walk so far at present. Indeed, I hardly know whether I am quite well; I think I will rest myself a little, and then return home." "Whatever you may determine," rejoined the fox, "I hope to be permitted to enjoy your society and conversation; and possibly I may have the great gratification of preventing the tedium which, were you left alone, your indisposition might produce." In speaking thus, the crafty fox had no doubt that the only indisposition which the cat was suffering, was an unwillingness to allow him a share of her booty; and he was determined that, so far as management could go, she should catch no fish that day without his being a party to the transaction. As the trout still continued in sight, he began to commend his shape and color; and the cat, seeing no way of getting rid of him, finally agreed that they should jointly try their skill and divide the spoil. Upon this compact, they both went actively to work.

They agreed first to try the following device. A small knob of earth, covered with rushes, stood in the water close to the bank. Both the fishers were to crouch behind these rushes; the fox was to move the water very gently with the end of his long brush, and withdraw it so soon as the trout's attention should have been drawn to that point; and the cat was to hold her right paw underneath, and be ready, so soon as the fish should come over it, to throw him out on the bank. No sooner was the execution of this device commenced, than it seemed likely to succeed. The trout soon noticed the movement on the water, and glided quickly toward the point where it was made; but when he had arrived within about twice his own length of it, he stopped, and

then backed toward the middle of the river. Several times this manœuvre was repeated, and always with the same result, until the tricky pair were convinced that they must try some other scheme.

It so happened that whilst they were considering what they should do next, the fox espied a small piece of meat, when it was agreed, that he should tear this into little bits, and throw them into the stream above where they then were; that the cat should wait, crouched behind a tuft of grass, to dash into the river, and seize the trout, if he should come to take any piece of meat floating near the bank; and that the fox should, on the first movement of the cat, return and give his help. This scheme was put into practice, but with no better success than the other. The trout came and took the pieces of meat which had floated farthest off from the bank, but to those which floated near, he seemed to pay no attention. As he rose to take the last, he put his mouth out of the water, and said, "To other travellers with these petty tricks: here we are 'wide awake as a black fish,' and are not to be caught with bits and scraps, like so many silly gudgeons!" As the trout went down, the fox said, in an undertone, "Say you so, my fine fellow? we may, perhaps, make a *gudgeon* of you yet!" Then turning to the cat, he proposed to her a new scheme, in the following terms:

"I have a scheme to propose which cannot, I am persuaded, fail of succeeding, if you will lend your talents and skill for the execution of it. As I crossed the bridge, a little way above, I saw the dead body of a small dog, and near it a flat piece of wood rather longer than your person. Now, let us threw the dead dog into the river, and give the trout time to examine it; then let us put the piece of wood into the water, and do you set yourself upon it, so that it will be lengthwise under you, and your mouth may lean over one edge, and your tail hang in the water as if you were dead. The trout, no doubt, will come up to you, when you may seize him, and paddle to the bank with him, where I will be in waiting to help you land the prey." The scheme pleased the cat so much, that, in spite of her repugnance to the wetting which it promised her, she resolved to act the part which the cunning fox had assigned to her. They first threw the dead dog into the river, and, going down the stream, they soon had the satisfaction to see the trout glide up close to it and examine it. They then returned to the bridge, and put the piece of wood into the water, and the cat, having placed herself on it, and taken a posture as if she were dead, was soon carried down by the current to where the trout was. Apparently without the least suspicion, he came up close to the cat's head, and she, seizing him by one of his gills, held him in spite of all his struggles. The task of regaining the bank still had to be performed, and this was no small difficulty, for the trout struggled so hard, and the business of navigation was so new to the cat, that not without great labor and fatigue did she reach the place where the fox was waiting for her. As one end of the board struck the bank, the fox put his right fore-paw upon it, then seizing the fish near the tail, as the cat let it go, he gave the board a violent push which sent it toward the middle of the stream, and instantly ran off with the trout in his mouth, toward the bridge.

It so happened that after the fox had quitted the bridge the last time, an otter had come there to watch for fish, and he, seeing the trout in the fox's mouth, rushed toward him, and compelled him to drop the fish, and put himself on the defensive. It had also happened that this otter had been seen in an earlier part of the day, and that notice of him had been given to the farmer to whom the cat belonged, and who had more than once declared that if ever he found her fishing again, she should be thrown into the river with a stone tied to her neck. The moment the farmer heard of the otter, he took his gun, and, followed by a laborer and two strong dogs, went toward the river, where he arrived just as the cat, exhausted by the fatigue of her second voyage, was crawling up the bank. Immediately he ordered the laborer to put the sentence of drowning in execution; then, followed by his dogs, he arrived near the bridge just as the fox and the otter were about to join battle. Instantly the dogs set on the fox and tore him to pieces; and the farmer, shooting the otter dead on the spot, possessed himself of the trout, which had thus served to detain first one, then the other of his destroyers, till a severe punishment had overtaken each of them.

MORAL.

The inexperienced are never so much in danger of being deceived and hurt, as when they think themselves a match for the crafty, and suppose that they have penetrated their designs and seen through all their stratagems. As to the crafty, they are ever in danger, either of being overreached one by another, or of falling in a hurry into some snare of their own, where, as commonly happens, should they be caught, they are treated with a full measure of severity.—*Appleton's Juvenile Annual.*

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MONTHLY.

SIMON BROWN, S. FLETCHER, } EDITORS.

WHAT DOES "MAY" MEAN.

Up like a princess starts the merry morning,
In draperies of many-colored cloud;
And sky-larks, minstrels of the early dawning,
Pipe forth their hearty welcomes long and loud.
John Clare.

NAMES grow out of things; they are the spoken sign of a thought, or idea. We speak of a "peach," and that word carries to the mind of the hearer the size, shape, color and flavor of that fruit. He understands it perfectly, and it is in this way that we communicate our own sensations to others, and interchange thought, feeling and action with all who use the same language.

What we greatly need, in order to feel the full force of a word, is to know how it was derived,—that is, from what *form* or *feeling*. We should have a very imperfect idea of a lion, if we had never seen one, nor had any description of one. He who has never had the attribute of mercy warm his heart, nor been touched by the emotions of pity, could scarcely have a realizing sense of what the meaning of these words is.

Language grows with our material growth. New arts and sciences require new names by which they may be expressed, and these names grow out of some peculiarity in the art or thing itself.

In speaking of *April*, a month ago, we suggested that the meaning of the name might have come from the Latin word *Aprilis* from *aperio*, to *open* or *set forth*. That is, the earth is loosened from the icy fetters which have made it almost solid for some months. The brooks flow. The vital spark rekindles in dormant existences, and all things live and move and have their being again.

We are indebted to the old Romans for many of the words we use, and for the names of particular things. We probably are for the word MAY, the name of the present month, some portions of which can scarcely be surpassed by the finest days of June. These people did not worship one God, the Creator and Author of all things, but had divinities whom they worshipped under many names. They had celestial and terrestrial gods and goddesses; gods of the woods, and rural deities; gods of the sea; infernal deities and monsters, and good and evil deities.

One of these goddesses was "*Maia*," whose chief title was *Bona Dea*, or the "Good Goddess," who represented the earth itself, and all that is good and beautiful upon it. So they had her figure carved, gorgeously dressed and placed where the people could approach her and pay their homage. "On the earth are built many towers and castles, so on her head they placed a crown of towers. In her hand she carries a key, for in winter the earth locks up these treasures which she brings forth and dispenses with so much plenty in summer. She rides in a chariot, because the earth hangs suspended in the air, balanced and poised by its own weight. But that chariot is supported by wheels, since the earth is a revolving body, and turns round; and it is drawn by lions, because nothing is so fierce, so savage, or so ungovernable, but a motherly piety and tenderness is able to tame it, and make it submit to the yoke. Her garments are painted with divers colors, and figured with the images of several creatures, as everybody sees that such a dress is suitable to the earth.

It is pleasant, as month after month rolls round, to know something of the meaning of their names, and how they came by them.

By our old Saxon ancestors, *May* was called *Tri-milki*, "because (as an old writer says,) in that month they began to milke their kine three times in the day."

In England, the first of May has long been celebrated as one of the most joyous occasions of the year. Old and young turned out and decorated themselves with evergreen branches and flowers; troops of horse paraded the streets, half smothered with green boughs and leaves; long poles were set up and twined about with wreaths and garlands, while merry men and women and boys and girls danced around them amid the fragrance of a profusion of flowers. There was great rivalry among them to see which could bring out the most rare shrub or the largest quantity of green plants. So far was this carried, that "some would openly show boughs of birch which were privately made green long before the usual time, by art, as by the heat of their stoves and watering them, and privately brought in as if they newly came from the wood."

In our climate, until the first of May is *postponed until the first of June* we shall not be able to engage in similar festivities. Some of our "young folk," however, annually encase themselves in mittens, over coats and rubber boots, rush to the bleak pastures and leafless woods for some *green thing*, or tiny flower that has dared to peep out from some obstinate snow-drift, in order to see whether Spring was really coming or not! But they soon find sharp exercise more grateful even than spring flowers, and rush back, blue and shivering, to the warm room, (we wish we could say fireside) to console themselves by reading the poets who sing of the beauties of the first of May.

We never shall get up much enthusiasm for *May* until she materially changes her habits; and these are so thoroughly established, that it is hardly worth while to make any effort. But instead, let us make more of our old, time-honored *Election Day*, which comes a little later, or the fourth of July, when we can get flowers and green peas, also. Let us try that for awhile, and let May have her own way.

"CASTING THE WITHERS."

Casting the withers, or inversion of the uterus, is a serious trouble of frequent occurrence among cows after calving. Mr. I. B. Puffer of Putney, Vt., informs us that himself and two of his neighbors have each saved cows when in this situation by tying a cord tightly around the protruding mass, near the body, and cutting off the part below the cord, and afterward fattening the cows. If the entire uterus protrudes, and the cord is tied above it, around the membrane connecting it with the vagina, and the section is made so as to remove the entire womb, we think it may succeed. No part of the womb should be left. If the uterus cannot be returned, it may be well to try this method to save the life of the animal. The "casting of the withers" is caused by the womb becoming turned inside out, as when a man in taking off his coat turns the sleeve wrong side out. The way to replace the withers is precisely that which a man would take to return his sleeve to its proper condition. He would take hold of the cuff and push his arm through the sleeve to the whole length of his arm. So here, the hand must be placed on the fundus or upper end of the womb, which will now be at the bottom of the hanging mass, and be pushed up through the cavity of the womb into the vagina, and this process must be gently persisted in, until the organ is replaced in its natural position. It generally requires the arm of the operator to be pushed into the body its entire length. It would do no good in returning a sleeve to re-turn it half its length. The work must be done completely. So in this case, if the reinversion is partially done the womb will inevitably fall again. When properly restored to its place, it generally remains without further trouble. It will hardly be safe to allow a cow that has once had inversion of the womb to have another calf.

One who understands the true nature of the difficulty, and the anatomy of the parts, will have little difficulty in restoring the inverted organ if done before the parts become swollen and cold. Before any attempts to restore the organ, it should be carefully cleaned by bathing in warm water.

We trust that the students at the agricultural colleges will be instructed in the more common veterinary operations at least, so that they may be prepared to meet the difficulties that are liable to occur in every farm-yard in the country.

SEXES OF ANIMALS AT WILL.

Much inconvenience and loss is felt by all breeders of cattle for the dairy in having such a large proportion of male animals. These are not wanted for working cattle or for beef, and so are fattened as rapidly as possible and sold out of the way. The consequence of this is, that the number of calves which the farmer has to select from to keep up his dairy stock, is reduced more than one-half, which frequently induces him to raise heifer calves that are defective in some points, or, at any rate, do not come up to the standard which he would like to preserve.

We present below an article on the subject of "producing sexes at will," not because the theory is entirely new, but as a *timely suggestion* to those who have cows to provide for at this particular season of the year. If careful observation is made, and the facts recorded, what must seem to many now as a mere *theory* may be so corroborated by a multitude of instances as to remove doubt from all minds, or fail in so many as to prove that the whole matter is still veiled in uncertainty.

For many years eminent naturalists have been satisfied of the near discovery of a practical way to produce the sexes at will. M. Thury had the good luck to be the first one in putting the law in practice, as the following certificate and remarks, which we copy from the correspondence of the *Southern Cultivator* shows, translated nearly in its full extent:

"I, the undersigned, George Cornaz, the overseer of the estate of my late father, M. A. Cornaz, President of the Societie d' Agriculture, de la Suise romande, Montet, Canton de Vaud, do hereby certify, that having received from M. Thury, a Professor at the Academie de Geneve, on the 18th day of February, 1861, some confidential directions for the purpose of verifying by experiments the law regulating the production of sexes amongst the animals, I used with my herd of cows the directions given by M. Thury, and I obtained, immediately, without any variation, all the expected results and successes.

In the first place, on twenty-two successive occasions, I desired to have heifers. My cows were of Schwitz breed, and my bull a pure Durham. I succeeded in all these cases. Having bought a pure Durham cow, it was very important for me to have a new bull, to supersede the one I had bought at great expense, and without leaving to chance the production of a young male. So I followed, accordingly, the prescriptions of Prof. Thury, and the success has proved once more the truth of the law. I have obtained from my Durham bull six more bulls (Schwitz Durham cross) for field work; and, having chosen cows of the same color and height, I obtained perfect matches of oxen. My herd amounted to forty cows of every age.

In short, I have made in all twenty-nine experiments after the new method, and in every one I succeeded in the production of what I was looking for—male or female. I had not one single failure. All the experiments have been made by myself, without any other person's intervention; consequently I do declare that I consider as real and certainly perfect, the method of Prof Thury, &c.

Done at Montet, February the 13th, 1867.

Signed, G. CORNAZ."

On the 17th of August, 1863, M. Thury submitted a memorial to the Academie de Sciences de Paris, and the French Emperor ordered the renewing of the experiments in several large "fermes modeles." These curious trials have been made also with equal success in the case of other animals, as horses, sheep, goats, &c. It is also known, that with hen's eggs, the first laid give female, and the last laid give male products. The law is general till the end of the laying season, when the number of female production exceeds the male, under circumstances not yet sufficiently ascertained to be reported.

It is on account of this new practical law that the people can explain why the stock raiser must give young bulls to his cows. The bull, when young, is more prompt, and meets the female at the beginning of the heat; instead of a bull old or exhausted, or lazy by long service, which meets the cow only at the end of the heat. The first gives heifers—the second produces generally males.

The law for stock raisers and farmers is as follows; If you wish to produce females, give the male at the first signs of heat; if you wish males, give him at the end of the heat. T. DE R——.

Thibadeaux, La., March, 1867.

MICHIGAN AGRICULTURAL COLLEGE.—The bill appropriating $70,000 to this institution has passed the legislature of Michigan by a vote in the House of 58 yeas to 28 nays, and in the Senate by 22 yeas to 8 nays. As the legislature meets only once in two years, $20,000 of this sum is appropriated for the use and support of the college in 1869, $20,000 for 1870, and $30,000 for a new hall, chiefly for additional dormitories for the accommodation of students. No part, we believe, of the fund from the Congressional appropriation of lands has as yet been expended.

HUMUS---LIME.

HUMUS is vegetable matter in a state of decomposition, and supplies the source whence plants principally derive their food. The power of enduing soils with fertility is one of the most important in the routine of farming operations, and is effected in a variety of ways; but the most economical and efficacious method, perhaps, is the *turning in of green crops*.

When this method is adopted, the plants selected should be such as are capacitated by nature to derive the principal part of their sustenance from the air, and which are therefore the less likely to exhaust the soil of the limited amount of *humus* contained in it during the development of the growing crop.

Up to the period of inflorescence, those plants denominated aerial, or belonging to the air,—and among which may be enumerated buckwheat, peas, and the clovers,—draw but slightly upon the resources of the soil; the economy of vegetation being such in regard to them, that but a comparatively slight degree of aliment is required from this source. This enables us to account for the well-known fact that some crops, nearly deficient in productive energy, often produce a large amount of *straw*, though they fail in maturing a crop of grain.

When vegetables of an aerial character are inhumed by being carefully turned under with the plough, and embedded compactly in the soil, the vegetable fibre, or organized structure of the plant, is speedily resolved into *humus;* the fermentive and putrefactive process being accomplished with greater or lesser rapidity according to the character of the atmosphere, and the condition of the soil, as regards humidity, at the time it is turned down. The gaseous products of the mass, eliminated during the process of fermentation, are eagerly absorbed by the soil; while the other products, i. e., those of a solid character, if permitted to remain undisturbed, are soon incorporated and mixed with it; but should the soil be again ploughed before the important process of decomposition has been thoroughly effected, —which is too frequently the case, especially where a dry crop succeeds a green one,—much the larger portions of the gaseous, and no inconsiderable portion of the solid products, will inevitably be dissipated and lost to the soil.

In order to avoid this loss of valuable principles, and render the application more immediately appropriable by the growing crop, it has been recommended to sow lime, from five to twenty bushels per acre, before turning down. The efficiency of this mineral is now too generally well known to admit of any question, and in no way, perhaps, is its application more immediately beneficial than as an accompaniment for green crops, when turned in as a help for lands that are poor and light.

Such soils frequently abound in acids. These are sometimes native to the soil, and sometimes produced or added to it by the substances applied as manure. But whatever may be their origin, they are speedily neutralized by the use of lime. The fact is now well understood that all plants, grown for food, require lime for the perfection of their seeds. Its free use, therefore, in agriculture is recommended by DANA and HITCHCOCK. These writers contemplate its action as threefold, each distinct.

1st. It is a *neutralizer*. Either in its calcined state, or in the form of a carbonate, lime, according to their authority, will combine with any acid that may be present in the soil in a free state. And they say:—

"If the carbonate of lime is employed, the carbonic acid which it contained is set free, and becomes food for plants.

"It is a *decomposer*. Many of the metallic oxides will be decomposed by lime, and their components will form new combinations, or be absorbed by plants."

According to Dr. Dana's views of *geine*, the soil may be affluent in *geates*,—or in other words, *geic acid* will combine with earths and metals and form salts not easily soluble, but which lime will decompose and render soluble.

It is a *converter*. "The great use of lime," remarks Professor Hitchcock, "is as a converter, turning solid, insoluble geine—nay, I may go further—*solid vegetable fibre*, into *solid vegetable food*."

Calcareous earth, that is, chalky, or limy, is applied in one of three different forms, viz:

As calcined, (burnt) lime, either in a slaked or unslaked state, as a carbonate of lime; that is, either pulverized lime, shell marl, or clays in which marl exists; or, indeed, in any form in which it exists, and can, without too much expense, be obtained, and thoroughly incorporated with the soil to be ameliorated or improved.

As sulphate of lime, or gypsum—known commonly as plaster of Paris—the "Alabaster of the arts."

Sir HUMPHREY DAVY, whose opinions on most subjects connected with agriculture are eminently deserving of respect, asserts that, "when lime is mixed with any moist, fibrous vegetable matter, whether freshly burned or slaked, there is a powerful action produced; the two forming a kind of compost together, a part of which, at least, is soluble in water."

How much lime may be necessary to effect a thorough and permanent improvement of the soil, is a question to be determined only by careful experiment. In some cases the quantity will be large, but in all its action will be beneficial and perceptible in the crop.

CHINESE CLOVER.

We have noticed several statements of late in respect to the appearance of clover and other grasses at the South, which some have supposed were introduced in the hay fed to the horses of the Northern troops during the late war. The following notice of a new clover is from the *Dixie Farmer*:—

The Chinese clover, which is also called "Japan Clover," "Little Wild Clover," and "Secession Clover," first attracted attention in 1862 on the Saluda river, near old "96," in South Carolina.

It now overruns all the old fields in the northern portion of this State, and grows to some extent in the oak and hickory forests. It is rapidly spreading in the middle section of the State, and I have been informed, flourishes luxuriantly, on the sea coast. Before it has fully taken possession of the land, it is a creeping plant, and subsequently assumes an upright form. It makes its appearance and blooms early in the spring, remaining green till late in the fall. Seed very minute and apparently extremely difficut to gather. Flowers white and red, and quite small. When it begins to appear in any region, it is first observed along the public roads, and afterwards along those less travelled. On ordinary lands, if undisturbed, will grow from eight to ten inches high. It will "eat out" broom sedge in an old field, and will, it is claimed, "eat out" and replace Bermuda grass. It is readily destroyed by the plough, and therefore, does not interfere with tillage. Stock of all kinds eat it, and when ploughing, are extremely fond of it. The appearance of this clover in South Carolina is spontaneous, and no satisfactory theory as to its origin has been advanced.

For the New England Farmer.

THE GARDEN IN MAY.

May brings with it a pressure of work. Occasionally the chilling winds and abundance of rain and frosts of a late season cause impatience in the delay; or, if the season is forward, we are pressed with work, and the question is, not what needs doing, but what shall be done first? In our own experience of some twenty-five years since commencing for ourselves in the garden and on the farm, we have found that nothing is gained in doing planting and such work in advance of its season. After a long cold winter and repeated cold spring rains, it takes a certain space of time for the ground to come into a suitable condition to work, or for the seeds to be deposited therein. It must settle, drain and warm up to a suitable degree before most seeds will germinate in the soil. We recollect many a time, in the enthusiasm of our younger inexperience, of having to do our work over in the garden from having planted so early that untimely frosts cut off our plants after they had come up finely. A warm spell occurring in April, or early in May, makes us impatient to get the seed into the ground, that we may have a garden a little ahead of any of our neighbors; but in our variable New England climate, it is an unsafe operation to plant any, except the more hardy varieties, till settled warm weather in May, which varies in date with different seasons. A good sheltered location for a garden, with previous preparation of underdraining, trenching, and high enrichment, which promotes earliness, will be appreciated now in warding off frosts, cold winds, &c., during spring.

ASPARAGUS.—The beds will now begin to afford us a supply for the table or market. Care is needed in cutting, not to injure the starting buds or crowns of the plants. How few, comparatively, of our farmers raise this most delicious vegetable, even for their own table. It is very easily raised, and furnishes a dish for the table much relished by all, and would be more generally raised were its merits better known.

BEANS.—There is a difference in the hardiness of garden beans; and only the more hardy kinds should be planted till the middle or latter part of the month. Lima and the more tender pole beans, succomb to a light frost, and then the planting must be done over. Dwarf or bush varieties may be planted a little earlier, and if frost is threatened, a board may be laid over the row, resting on bricks or blocks to avoid crushing the plants. Plant out pole beans after frosts are past; set the poles first, firmly in the ground, four feet apart, and plant six or eight beans around each pole,—leave the Limas till the last, and be sure and stick them eyes down, barely covering them with one fourth an inch of fine soil. The *Germantown Telegraph* says that greasing the beans before planting prevents them from rotting, and does not injure their germination.

BEETS.—These being quite hardy, may be planted as soon as the ground is ready to receive the seed. Sow in drills eighteen inches apart, covering the seed half an inch deep,—drop the seed three or four inches apart and thin out to six or eight inches, after they get started. More than one plant will be likely to come from what appears as one seed, which in reality is an envelope containing several seeds. The plants allowed to get a little growth make excellent greens, and often are allowed to grow till likely to interfere, before being pulled out for this purpose.

CABBAGE.—Early sorts will usually answer to transplant during the month. Seed may be sown of both early and late varieties in the open ground. The varieties are numerous, some late sorts growing enormous heads, others much smaller, more tender, and better flavored. All the mammoth kinds are more or less coarse, with large leaf stems and veins; the medium and smaller growing heads will be found the best for eating,—the mammoth for market.

CARROTS.—For our New England climate, May is early enough, and some think too early to sow carrots. A few radish seed sown with the carrot will enable one to distinguish the rows much better, and the weeds can be better kept in subjection without injury to the carrots; clean culture makes clean good crops.

CORN.—Plant as soon as the soil is warm. A few hills may be started on sods, in the hot-bed, and set in the open ground, after late frosts are past. The Mexican and Trimbles, are two as good sorts as one could wish; the Mexican being a small eight rowed variety and the Trimble a good sized, twelve rowed sort, soft and rich when in its prime. The Mexican has small kernels, sweet, and excellent for eating from the cob, as the seed comes out clean and free from hulls. J. J. H. Gregory advertises it by the package. I have none for sale.

CUCUMBERS.—About the middle of the month is soon enough to plant in the open ground, to escape frosts. According to the "weather wise" we shall have frosts the latter half of the month to injure vegetation. A few hills can be started on sods in the hot-bed to be transplanted the last of the month, and get a little advantage over those planted in the open ground.

LETTUCE.—Transplant from the the hot-bed and cold frames. Sow seeds in the open ground for succession. Applications of liquid manure, or guano in judicious quantities, will give large results.

ONIONS.—If not already planted, plant onion seeds in rich well-prepared beds. Set out tops, sets, and potato onions, as early in the month as possible. Early sown seed produces best results.

PEAS.—Repeat planting of early sorts for succession, and put in late sorts of Marrowfats, and the better sorts. Pea brush should be put to the peas soon after they come up, as the longer deferred the less inclined the vines are to take hold of them.

POTATOES.—Plant as soon as the ground is in readiness, as early planted do the best, of late years; give them mineral, instead of putrescent manure, on ground previously manured and in good heart.

RADISHES.—Sow seed in quick, warm soil; If insects attack the plants dust with ashes; light applications of guano promote rapid growth.

SQUASH.—These being of tropical origin will need be treated as tender plants, similar to cucumbers, as above. Manure, old and well rotted, makes the squash grow, when judiciously applied in liberal quantities.

TOMATOES.—These will not bear the least frost, and cold rains do not agree with them. If the plants in the hot-bed, or cold frame, are getting large, prick them out from the hot-bed to the cold frames, or into pots; start the roots of those in cold frames to increase stockiness, &c. Keep the plants protected nights but harden off days by giving them the open air, all reasonably pleasant days.

WM. H. WHITE.

South Windsor, Conn., 1869.

JAPANESE WHEAT.—The large variety of millet which was advertised as Japanese wheat by J. D. Rice of Detroit, Michigan, and sold at 50 cents "for enough to raise a bushel" was generally regarded as a "sell" by most of those who invested. Mr. H. W. Hill of Bridgewater, Mass., who sent for a parcel of it, was so disgusted with the appearance of his new "wheat" that he sowed only a small part of what he received. Finding that it was not wheat at all, but that it grew rank and large, with stem and leaves something like corn, he fed some of it to his cows and found that both stalk and seed were much liked by them. He has therefore saved a quantity of the seed and intends to sow a patch this season for fodder, for which purpose he think it may prove a valuable addition to our forage crops. Mr. A. D. Arms of Montpelier, Vt., judged that the straw of some that he sowed was equal to an average of four tons per acre. Mr. Hill has sent us a single head of the seed measuring ten inches and weighing full one ounce, when perfectly dry.

—It is estimated that there are 255,000 threshing machines in the United States, without counting the "school-marms."

GIRLS ON THE FARM.

From a correspondent we recently received a letter touching upon almost every subject that relates to the interests of farmers, in which our friend makes bold to enter within the precincts of the family itself, and with a free pen to criticise as follows. We give him a hearing, availing ourselves of an editor's privilege of commenting as freely as he writes.

He says,—"where can the young farmer find a help-mate qualified to assume and properly direct the management of the details and domestic matters of a well-regulated household? The wives and mothers of old were educated at the spinning wheel and the loom, and not at the boarding school and the piano. They were early taught to reverence their country and its institutions. Now, nothing that is not in some measure foreign to both, claims the respect of our females. They must study French and Italian, 'learn music' and embroidery, and manifest their dislike for whatever is not of foreign lands! Even among the daughters of our farmers, dress and 'polite accomplishments' are permitted to usurp the place of more useful endowments. The girl who should have remained at home to assist by her labors and presence the efforts of her mother, and, under her watchful instruction, lay the foundation of future usefulness, is no sooner in her 'teens,' than she is sent off to some boarding school, or 'institute,' from which, after a brief residence, she returns to ridicule the vulgarity of rustic life, and be paraded by her misguided parents, as a 'mirror of accomplishments'—the 'bright, particular star' of the family, and

'The cynosure of every eye.'

"The influence which such a person exerts over the minds of her susceptible and uninitiated companions, whose simplicity induces them to regard her as a paragon, is highly deleterious, as it creates a disrelish and disgust for the more honorable objects of life, and elevates to the rank of virtues, those merely superficial and frivolous acquirements which are calculated to subserve no important or honorable purpose in life."

That some cause exists for such sharp criticism, we cannot deny,—and that *fashion* absorbs too much of the time and strength of women, is evident everywhere. A common expression among them, is, "We might as well be out of the world as out of fashion!" But we cannot join in any general denunciation of whatever will educate (and by that word we mean elevate) the mind and improve the manners and taste. Far otherwise! Science, literature and polite accomplishments are greatly to be desired for all. We deprecate nothing that is calculated to contribute to human usefulness, or to augment, however slightly, the sum of earthly happiness. The unamiable vanity and ambition of those who would give precedence to the superficial embellishments of society, and palm off the mere shadow of an exalted virtue as the actual substance, is simply absurd.

The most distinguished women of America have been alike distinguished for their knowledge of domestic concerns. The idea that to be "a lady," one must necessarily possess "delicate health," and macerate her form to the tenuity of a shadow, or a mere skeleton, never entered their heads. In them, the moral and domestic virtues shone pre-eminent, and love wore

——"to the lover's eye, a look of love."

They were formed by nature to foster the elements of a republic, and give new glory to the achievements of its arts and aims. This was evident in a thousand instances in the late wicked rebellion.

Why honest industry should be considered as a derogation of dignity, by any American woman with the average amount of sense, we are truly at a loss to conceive. Labor is one of the primary conditions annexed by the Eternal to our lease of life, and no less essential to our happiness, and the best development of our capacities, than the food we eat, or the air we breathe. Idleness is far from being a condition of happiness. Action is impressed upon nature as an immutable law of being. Throughout the universe, nothing is idle; mutations and permutations, embracing the revolution of worlds and the most mighty systems, as well as the simplest modifications and changes, are perpetually operating to produce specific ends.

The many painful and fatal maladies which at present number their victims among the gentler sex, are no doubt often induced by the indulgence of habits of ease and luxury to which our mothers were happily strangers. Few young women, *comparatively*, are now bred up to domestic employments. Even in the families of our most conservative farmers, many of the common domestic duties are neglected to be taught to daughters. Thousands of young women enter the marriage state, and find the affairs of housekeeping resting upon them, which they understand about as well as how to build a ship or a sewing machine! In too many cases, their time is occupied by the guitar, piano and centre tables loaded with the flash literature of the day. If female help is wanted, recourse is had to the groups and families of recently arrived emigrants, who must receive a part of the education which daughters need, before they are fit to be intrusted with the fire in the kitchen stove,—much less with the food we are to eat. Few American girls can be had, either for love or money, who are competent to take charge of a family. In many sections, it has become nearly impossible to procure female assistance, even in cases of sickness.

There is a *cause* for this inconvenient state of things, and we think it lies principally in the want of early habits of industry, and a thorough education in the domestic duties of the family. One would not think of risking his interests with a young man practicing law, or prescribing medicine, who had not been trained to understand either of them. Is it any more reasonable to expect a young woman to discharge the duties of a housekeeper economically, or in any way acceptably, who knows little or nothing about those duties? By no means. This is the rock upon which the happiness of hundreds of families is ruined. There would be far less applications for divorce before the courts, if both parties were more thoroughly educated in the domestic duties which properly appertain to each.

But in the midst of these frequently painful inconveniences, there are thousands of young women unemployed, or living only at the starvation point, for the want of occupation. Crowded in cities, immured in garrets or cellars, half clad, tempted, not half-fed, shivering in the cold, unnoticed by the good, and ruined by the wicked. Why are they not sometimes out in God's blessed sunlight,

——"to breathe the breath
Of the cowslip and primrose sweet,
With the sky above their head,
And the grass beneath their feet?"

Why are they not in the ten thousand pleasant homes of the land, where families are suffering for the good work which they might give, and be fed and clothed and educated for useful lives? Why, do we ask? Why? the answer is plain. It is because of the estimation in which such service is held, by those who consider themselves as occupying a more elevated and "respectable sphere." The very appellation of "housemaid" is regarded as a disgrace—a term of censure not to be endured! And so men, women and children "board" instead of keeping house, and the good old Puritan family system goes into decay, and the wailing prayer of young girls goes through the land,—

"O! but for one short hour!
  A respite, however brief!
No blessed leisure for love or hope,
  But only time for grief!
A little weeping would ease my heart,
  But in their briny bed
My tears must stop, for every drop
  Hinders needle and thread."

When will the benevolent take this matter in hand, devise some measures for the employment of these fair but hapless beings, where they will not be looked upon as in an abject condition, and relieve our cities of this foul wrong that exists in them?

WINDHAM COUNTY, VT.—The board of managers of the Agricultural Society of this county held their annual meeting in Fayetteville, Feb. 17, and after revising and increasing the premium list to about $900, appointed the several committees for awarding premiums at the next fair.

The officers of the Society are:—

President—O. S. Howard, Esq., Townsend.
Vice Presidents—Col. H. Plimpton, Newfane, Ruel Smith, Esq., Wilmington.
Secretary and Treasurer—W. A. Stedman, Fayetteville.

And a Board of nine managers.

GREEN PICKLES.—You may have green pickles without copper or other poisonous salts by merely steeping the leaves of the grapevine or those of spinach or parsley in the vinegar. The use of earthen vessels glased with lead should also be avoided as a solution of the acetate of lead is inevitably the result, acting as a slow poison in the system, and like the use of lead in hair-washes, lotions for the skin, lead pipe for water conduits, etc., very frequently ending in paralysis. The large pickled cucumbers imported into this country from Holland in wooden kegs are not colored green by any of these artificial means and are not only the most wholesome, but also the most palatable of any.

MAKING A POOR FARM RICH

WITHOUT MANURE.

In our notice last week of the printed transactions of the Essex County Agricultural Society we mentioned, among other valuable papers which it contained, one by Dr. James R. Nichols, of Haverhill, on concentrated manures. Having been aware of the experiments which Dr. Nichols has been conducting on a run down farm, for the purpose of testing the question whether such a farm can be *economically* restored to fertility by the use of "special fertilizers," or those outside of barn yard or stable manure," we have waited with some impatience for a statement of the results of those experiments. From his well known ability both as a chemist and as a business man we have anticipated much practical information in regard to a subject on which at present our knowledge is vague and unsatisfactory. We have had in this country no such systematic and thorough tests of concentrated fertilizers as he proposed, and as we believe has conducted on his farm during the past five years. Few men who have the ability and the means of doing so, possess the necessary perseverance and patience. Most experimenters wish to reach their conclusions and write out their reports at the end of the first season or year. But after five years, Dr. Nichols gives only a general, not a detailed, statement of his results. We are sorry to see that ill health is assigned as a reason for not embodying, in this paper, as was intended, these results and conclusions in detail. Still enough is given to excite a general desire for a more detailed report, which the Dr. intimates may soon be given through another channel of communication. It may be proper to add that the farm on which these experiments were made was purchased in 1863, and consists of about eighty acres, which is described as follows, in the essay from which we copy:—

The farm at the time of purchase was well suited to a trial of this kind, as it had been in administrators' hands for several years, and was consequently neglected and unproductive. The soil is varied in its character, with upland and lowland, a fine peat bog occupying a basin between the hills. A portion is silicious, another portion loamy with a clay subsoil, and still another part is rich in organic *debris*, a forest having until within a few years densely covered it. Perhaps no tract of land in our county presents a greater variety of soils, of differences of exposure, or affords the gradations from wet to dry, so desirable for fair experiment.

The product at the time of purchase consisted entirely of hay—about twelve tons being produced, of indifferent quality. The crops the present year upon lands embraced in the original purchase, have been 30 tons of good hay, 100 bushels of potatoes, 25 bushels of wheat, 150 bushels of corn, 75 bushels of turnips, and one and a half tons of grapes, besides other fruits in considerable quantities. There has been a steady increase in the amount of crops each year, notwithstanding a series of most unfavorable seasons. The number of acres in tillage is not far from twenty.

No stable or barnyard manures, excepting a few loads at the start, have been purchased during the five years, and the amount made upon the premises has been small; the stock consisting until within the past year of only three cows, a pig and one horse. At present the farm sustains eleven cows and heifers, three horses, a pig, and, during a part of the year, one yoke of oxen.

The fertilizing substances used (of which an accurate account has been kept, as also of crops, expenses of labor, &c.,) embrace the entire range of those agents which chemistry suggests, and those which have been brought to notice through the recommendation of farmers and experimenters—bones, ashes, lime, salt, the nitrates of potassa and soda, sulphate of ammonia, carbonate of ammonia, plaster, potashes, fish pommace, shorts, muck, horn shavings, and lastly, the refuse of the Maine lobster factories. The methods of application and the conditions under which these have been employed, the combinations produced, present details which although extremely interesting, are too extensive to enter upon in this essay.

A definite end has been kept in view—that of securing practical facts from which safe general conclusions could be reached. Of course many experiments known to be empirical have been undertaken, and the results noted. For example, a half-acre of grass-land was divided into eighteen equal parts, and eighteen different substances applied; the results were curious, but the experiment actually proved nothing, although a great difference was observable in the crops of grass. More than one-half of the experiments which we find reported from year to year, are of this nature.

The substances affording the highest satisfaction have been those which furnish in largest quantity and at the lowest rates, the great fundamentals of plant-food—phosphoric acid, lime, potash, nitrogen. These have been obtained from bones, ashes, potashes, fish pomace, and nitrate of soda, principally. Bones have been largely dissolved in acid, and true phosphate and superphosphate of lime made upon the farm premises. Bones ground and unground have been dissolved in the caustic lye of ashes, also in commercial potashes, and fertilizing substances of the most prompt and satisfactory character produced. I doubt if better crops of wheat and corn have ever been produced in the county, than have resulted from the use of these agents, upon weak lands.

I think it must be conceded that the results of these labors go to prove that exhausted soils can be brought and sustained in good tilth by concentrated chemical agents, at an expense considerably less than by the use of excrementitious manures at present market prices in the more densely populated parts of our country.

In conclusion, I will briefly present some facts regarding a special experiment upon a measured acre of hill land, dry, and exhausted from repeated croppings. It has been continued through five consecutive years.

In the autumn of 1863 it was ploughed, and in the succeeding spring dressed with 500 pounds of pure fine bone, sown broadcast, and planted with corn, a handful of home made superphosphate mixed with ground nitrate of soda, placed in each hill. One hundred and fifty-seven bushels of corn in the ear were taken from the field in the autumn of 1864.

After the corn was removed, the land was ploughed and again dressed with 500 pounds of a compost made up of bone-dust, ashes, and refuse saltpetre, and sowed down to winter rye. The crop was 31 bushels of nice, plump grain.

The season of 1866 was exceedingly dry, and the ground became so parched that the tender grass roots were greatly injured. The crop of hay was twenty-three hundred pounds.

The next season, a top-dressing of 500 pounds of compost made of bone gelatine and muck was given it in the spring, and a crop of hay cut weighing forty-three hundred pounds. A heavy aftermath was secured this season, which was not weighed.

The present season, 1868, the crop of hay reached two and a half tons, and the field appears to be in good condition for a fine product next year.

Here we have what may be considered a fair experiment, which proves that without the use of animal excrement, a worn-out field may be brought to produce very generous crops—crops which pay a good return for the expense incurred. It proves that chemical unorganized agents are capable not only of supplying nutriment to plants for a single year, but for sustaining crops for a series of years. The fertilizing elements supplied for the five years cost a little less than thirty dollars. The experiment upon this field is not regarded as finished, and the crops will be noted until they are observed to falter.

FITCHBURG FARMERS' CLUB.

The grand annual gathering of the Fitchburg Farmers' Club took place on Monday evening, March 1, at the town hall in Fitchburg. About *four hundred* ladies and gentlemen sat down to supper, which was bountiful and excellent. The presiding officer was **George E. Town**, Esq., whose capital hits often "set the tables in a roar." After relieving the dishes of some of their viands, —which occupied about an hour,—the President introduced Dr. Loring of Salem, who spoke at considerable length in defending the avocation of the farmer against the old, stereotyped and false imputation that "farming is unprofitable." He then related some of his own experiences in reclaiming lands by draining, clearing, ploughing and subsoiling, and in adapting his animals, as to size and habits, to the soil upon which they were to be sustained.

The President then, in a very happy manner introduced **Asa Clement**, Esq., of Dracut, President of the Middlesex North Agricultural Society and member of the State Board of Agriculture, who spoke highly of the avocation of the farmer, of his useful life, and general integrity, and gave some pretty strong contrasts between the modes of farming practiced in his boyhood and those which prevail at the present day. That great progress had been made, all could see who wished to see, and he doubted not that a still greater degree of improvement was before us.

At the close of Mr. Clement's remarks, a quartette club of gentlemen sang an appropriate song with great acceptance, Dr. **Jabez Fisher** of Fitchburg presiding at the piano.

Mr. **Brown**, one of the editors of the **Farmer** was then introduced, and read a paper upon "*The Culture and Use of Flowers.*" The Hon. **Alvah Crocker** was then called for, introduced, and made most happy and exceedingly pleasant remarks upon some of the sayings of the "master of ceremonies," "knocking into pi" the stale assertion that farming is unprofitable, and declaring his opinion that no life can be more useful than that of the intelligent, industrious and conscientious farmer. His remarks often elicited applause.

The Rev. Mr. **Davis** of Lunenburg being introduced, spoke admirably upon several matters, "driving some sharp nails clear in" to the chairman, who had personated himself as an *old* farmer, in his opening remarks, although a *young* man. Mr. **Carter** of Leominster closed the speaking with some admirable hits that kept up the vivacity of the occasion until its close at eleven o'clock.

The gathering was not only a happy, but an instructive one, as many valuable experiences and suggestions were made which will continue to work in the minds of the hearers while engaged in their duties on the farm.

Few things can be more appropriate, or have a greater tendency to make rural life pleasant and to improve both mind and manner, than such gatherings as this. May they be multiplied in all our land.

For the New England Farmer.

WASHING AND BEATING BUTTER.

When I told my method of making butter, I did not intend to get any one angry, or "up in arms." Perhaps, if I had not given my experience in this difficult art, we should never have heard anything from Mrs. D., for when she saw how much I differed from her, she could not help grabbing the pen and writing what she thought. When we read anything that don't exactly correspond with our views, it is about sure to wake up our thoughts and set us to investigating, analyzing and finding out whether the things are so or not.

What is written in the **Farmer** is for our instruction, admonition and correction, and tends to make us more interested in everything relating to the farm.

If Mrs. D. will carefully look over what I wrote, she will observe that I laid no claims to being an accomplished butter maker. I have only taken the first degree, though I confess myself a candidate for those higher ones of "better," "best," and even the "gilt-edged," which I suppose is the highest degree known to the order. Hence I shall try to profit by the instruction and experience of others, and if possible go on to perfection.

When I spoke of keeping the cream I did not wish to be understood to say that it ought to be kept three days, but merely that it ought not to be kept over three days. Many women with large families neglect churning from press of other work, and a number of days will slip away before they are hardly aware of it. Churning should never be neglected beyond that period; oftener is better.

Next month I expect to begin to make butter again, and I shall try Mrs. D.'s method, as I have no doubt she makes delicious butter, although I never fancied the *beating* system.

She says it is her opinion that washing destroys the "gilt-edge," spoils its flavor, and badly injures the keeping qualities of butter. All this may be true, although she gave no plain reasons to support her opinion. I was not aware that pure cold water ever injured anybody or anything; when I am convinced that it does I shall readily desist from using it, although an inveterate lover of this pure element. If the good qualities of butter are removed by water, then these peculiar properties must have a greater affinity for pure water than for the elements of the butter, and when water is applied they unite with it, and the best part of butter is carelessly thrown away by butter makers.

But is it a fact that the application or non-application of water decides the color and flavor of butter? Butter beaters affirm that such is the case, butter washers believe that these qualities depend on other circumstances. The condition and keeping of cows has something to do with it; perhaps their age has also, for I have heard old butter makers say that the cream of old cows was yellower and richer, but this may be an oldwives' fable. When cows are in a rich healthy pasture their butter is much sweeter and of a handsomer complexion than when fed on hay and roots and kept in the barn, and it is a common saying that butter made on hay will not keep well.

Butter is composed of several parts; one being a solid crystalline fat. This appears to be formed by minute grains nicely arranged in one general mass. Anything that disturbs the natural arrangement of this crystalline mass is highly injurious to the beauty and quality of the butter. Now if this is true, beating butter must be injurious, as it breaks and destroys the beautiful grains which give nice butter such a glistening appearance. The grains of new made butter are not close and compact. The application of pure cold water lowers its temperature, salt hardens the grain, and the buttermilk is naturally pressed out, mingled with the water, and thrown away. So much for the butter worker's plea.

Mrs. D. seemed to think that I was aware I had washed out the fine taste of the butter, and so applied sugar as a substitute. Perhaps I did not properly explain why I added the fine white sugar. Sugar modifies the taste of the salt. For example, mix some salt and water in a cup and on tasting it is unpleasant and disagreeable. Add a little nice sugar and the taste is then comparatively pleasant. I put sugar in the butter for the same purpose.

I might say more in defence of butter-washing, but I fear I shall get the editor, printer, and everybody else, all "up in arms." However, I hope that what has been said will stir up Mrs. D. and many other intelligent women, and provoke them to give valuable information relating to many things that smart women are interested in. Mrs. Trask.

Reading, Mass., Feb., 1869.

For the New England Farmer.

IMPROVING FARMS--USE OF MANURE.

Some little time since, I expressed some of my thoughts on the question, How can an upland farm be cultivated and the fertility of its soil be kept up. As a reason for the faith that is in me, I will tell you what I did on the farm I left when I moved here. The first year on that farm I cut over about fifty acres for a short twenty tons of hay, including a large amount of sorrel. In eight years I cut forty tons on less than one-half of the same ground. I hope many of your readers have done as well or better; if so, I would like to hear from them.

The way that I managed that farm was to break up and manure and new stock as fast as I could get manure. On old land, I ploughed the manure in; on greensward, after turning it over as well as I could. After spreading the manure as evenly as possible, I put on a cultivator and harrowed and worked it in thoroughly. I manure both spring and fall; but prefer fall, if I can get it in before cold weather.

I once put manure on the turf and turned it under, but the crops were not near as good as on land adjoining where the manure was ploughed in on old land. I have also tried spreading on old land and harrowing in. The first crop will come forward quite as fast and be perhaps as heavy, but the after crops have never with me been as good as where the manure was ploughed in. I have tried spreading on grass, or top-dressing as many call it, but I have never got more hay from three loads applied in that way than I have from one ploughed in.

One thing I am very particular about, I never draw out manure and drop it in heaps, nor spread it, until I am ready to work it in unless I am very sure of rain; in that case I spread by all means. I would about as soon leave hay in the windrow day after day, after it is fit to go into the barn, as to leave manure on the ground uncovered.

In a late Farmer Mr. Gilbert tells us how he makes manure. His way is like mine, with the exception that I use muck in my trench behind my cows in winter as well as in summer. If I ever lay another trench I shall lay it eighteen inches wide. I am now using four or five wheelbarrow loads daily, and it is hardly enough to absorb the water leaching from the manure heap.

I read very frequently of discussions on special fertilizers. I have tried them all, in a small way, and always with the same result. I have paid, perhaps, one hundred dollars in all, for fertilizers, but I don't think that I am one dollar better off for the whole.

It is slow starting up a farm that is run so low that it will not produce more than ten or fifteen hundred pounds of hay to the acre, but I know it can be done in the way that I have pointed out; and when I cannot see an increase of produce from year to year I shall want to quit farming.

I am in the greatest want of something to manure four or more acres for corn next spring, more than I shall have; and would buy some of these fertilizers if I knew that I could get something that would do as well as others tell of doing; but it is useless to try; I have been cheated so much that I am sick of it.

If any man doubts my statements, I think I can satisfy him that I am correct if he will call on me next summer. W. S. GROW.

Westboro', Mass., Feb. 16, 1869.

For the New England Farmer.

THE FARM IN WINTER.

We have had here in Connecticut a very open, mild winter, and but little snow. When winter first set in I, for one, was not very well prepared to meet it, as owing to the scarcity of fall help, and considerable improvements made on the farm, by the way of digging a well, laying pipes, building two barns, &c., we had considerable corn to husk after Dec. 1st,—say from two to three hundred bushels. But the weather being so favorable we were enabled to secure all our corn without waste.

Since then we have devoted most of the time to feeding out what we raised the past year, so as to be able to begin the agricultural year with empty buildings for storing the next crop. Our winter stock on the farm consists of twenty cows, from which we sell the milk: about a dozen head of young cattle, mostly thoroughbred; fourteen horses and colts, several of which are brood mares with foal; five pairs young oxen, two pair of which I shall sell in the spring; a thoroughbred Ayrshire bull, "Duke of Queensbury," No. 160, A. H. Book; about one hundred good ewe sheep, mostly South Down; eight good hogs, and a large collection of various breeds of poultry. So you will see that there is something to do to properly feed and take care of the "critters;" besides which we peddle our own milk. We have cut wood and partially got up a wood pile for the year, besides have drawn out some fifty loads of manure. When I say we, I refer to myself and two sons, one 18 and the other 15 years of age. I have no hired man this winter, but shall want two this summer.

And, now, while on the subject of hired help, I will say that to obtain a supply of good farm help is the hardest and most perplexing part of farming in this section. It is almost impossible to hire good reliable men at any price, and especially at any price which common farmers can afford to pay. Brother farmers, I appeal to you to know what we are to do to remedy this evil,—this great drawback to New England farming.

As regards the wintering of my sheep, I never had sheep winter any better, until within ten days. But recently I have lost three very valuable ewe sheep, each nearly ready to drop twin lambs. The first symptoms of disease is a disposition to stand alone from the flock, a loss of appetite, finally a slight nodding or jerking of the head and weakness in the legs. I know of no cause or cure. Will some experienced sheep man tell me how to manage them?

As to horses, will it pay to raise them here in Connecticut, within two miles of the railroad depot? What say you, Mr. Editor? If it will pay to raise horses, what style or class will pay the best? As regards milk, which will pay the best, "year in and year out," to sell the milk by peddling it, or to make a dairy and raise pork? What say you, Mr. Editor? What say you, brother farmers? What say you all? How many will answer me this question?

I am fattening my last thoroughbred Essex hog, not but that I like them very much as a breed; being quiet, easily kept and make good pork; but this community is so much opposed to black hogs that I cannot sell the pigs at home. The last pigs of this breed that I sold went to Warren County, Iowa. I want to start again on hogs, and I want to start with the best breed there is in the country, all things considered. But whatever the breed is, they must be white. Now who will tell me of the best breed of hogs in America from which to sell pigs at six to eight weeks old and to make pork of at a profit? JOHN DIMON.

Pomfret, Conn., March 1, 1869.

INTESTINAL WORMS.

It is now satisfactorily proved that the tapeworm originates from the passage into the human intestines of little bladder-like creatures (*Cystadids*), which inhabit the liver and other parts of the hog, and when abundant, cause the meat of that animal to be technically known as "measly pork." And the notorious *Trichina spiralis*, which is a very minute worm, also found in the flesh of the hog, effects an entrance into the human body in the same insiduous manner, and when in excessive numbers causes excruciating pains in the muscles, and sometimes even death. In both these cases, cooking destroys the worms, and prevents them from finding their way alive into the body of the living and breathing man, and there increasing and multiplying. But the same law prevails in all such cases as these, namely, that there is no fear whatever of any of these animals being introduced alive into the human body, except through the dangerous and every way exceptionable practice of eating raw meat. Neither are we safe by simply abstaining altogether from pork. The flesh of wild duck, and probably that of many other animals hitherto unsuspected, and supposed to be peculiarly cleanly, may prove to be as dangerous as that of the hog, provided it be eaten raw or only partially cooked.—*American Entomologist.*

EXTRACTS AND REPLIES.

LICE ON FRUIT TREES.

I would like to inquire of you, or through your valuable paper, if lice on young fruit trees will kill the tree? If so, what is the best way to destroy them, and what time of the year is the best?

I have a young orchard that has been set eight years next spring, and they have not borne any as yet. It is set on a rich, light soil. Last spring the ground was seeded down; before that it was used for a garden for a number of years.

James Pollard.

Ludlow, Vt., March, 1869.

Remarks.—The aphides that collect on the ends of the growing branch are sometimes called "lice," but we suppose our correspondent alludes to the much more formidable insect called the bark-louse or scale. It is described by Dr. Fitch, of New York, "as a little brown scale, one-eighth of an inch long, the shape of on oyster shell, fixed to the smooth bark, resembling a little blister. This scale is the dried remains of the body of the female, covering and protecting her eggs, from a dozen to a hundred of which lie in the cavity under each scale. These eggs hatch the latter part of May, and the young lice diffuse themselves over the bark, appearing as minute white atoms, almost invisible to the eye. They puncture the bark and suck the sap from it. The females soon fix themselves and become stationary. They die and become overspread with a substance resembling fine blue mould, which, wearing off, the little oyster-shaped scale again appears in July. They sometimes become so multiplied that the bark of the trunk and limbs is everywhere covered and crowded with them, and if the tree is weakened by borers, fire blight, or other disease, these bark-lice thus multiplying, kill it. In years past, over all the country adjacent to Lake Michigan, every apple-tree has been destroyed by this insect."

Their presence is generally considered to indicate a want of healthy action in the tree. If this is correct we should look for the causes which produce this unhealthfulness. You say the trees stand on rich, light soil, which was used for a garden. Possibly the early growth of your trees was too much forced, or the subsoil may be wet or otherwise unfavorable to a due expansion of the roots. Trees at eight years are not old enough to bear much. Sometimes a wash of strong soap-suds applied with a stiff brush such as is used for scouring floors, as soon as the weather is warmer, say in April, and repeated two or three times during the summer, will effect a change for the better in the appearance of the trees. In the *American Fruit Culturist*, by Mr. Thomas, a mixture of equal parts of tar and linseed oil applied warm, *not hot*, early in spring, is recommended. It is said this mixture does not close the pores of the bark as grease would, but it forms a varnish, which soon becomes hard, and when the tree begins to grow it cracks and peels off, carrying the bark lice with it.

Dr. Fitch, in his Treatise on Insects, mentions another remedy, which he considers very efficacious, prepared as follows:—Leaf tobacco is boiled in a strong lye until reduced to an impalpable pulp, and this is then mixed with soft soap (which has been made cold, and not boiled), the whole mixture becoming of the consistence of thin paint; this, when applied, does not easily wash from the tree, as lye, tobacco water, &c., would alone. One application with the brush to every part, will protect trees two years. A young orchard of one hundred and fifty trees, required two men a fortnight to go over every part, branch and twig, through the orchard. The trees grew thriftily, and were perfectly free from lice, while others in every direction were dying from their attacks.

MANURE AND MUCK LAND.

Can you or any of your contributors inform me, through the Farmer, what is the best dressing to be applied to muck-land which is well drained, and the mode of applying it? Is there any material which can be economically applied to such land as a substitute for manure? Hill.

Methuen, Mass., 1869.

Remarks.—We cannot tell you what the *best* manure is for muck land that is well drained, but can strongly recommend wood ashes as the first thing which we should apply, if we could obtain them. Spread ten to fifteen bushels per acre, for two or three years in succession, and we think you will perceive a striking change in its products. Composted manures may be used with advantage, but as they cannot be spared, use superphosphate or lime or some other special fertilizer. Spread broadcast in moist weather two, three or fourh undred pounds per acre.

WHY FARMERS SHOULD WRITE.

I can subscribe most heartily to the experience and confession of a farmer in the February number of the Monthly Farmer, as to a frequent inclination to reply to or comment upon the various subjects discussed in your columns, and as to a general neglect of doing so in consequence of a constant press of other duties and of a feeling of inability. But after reading your remarks therewith, together with the lecture you gave me in your January issue, I have made up my mind to bother you occasionally. I think if we farmers will once break through the ice we shall not find it so hard to get time now and then to put a new idea or bit of experience on paper, and with the time and will, will surely come the ability. The fact is, farmers as a class do not understand each other well enough; they are greatly given to bashfulness, and diffidence, with a sprinkling of self-conceit.

They think they know it all now, and are therefore sceptical of the value and correctness of the ideas and practices of others, and are too modest to explain their own. Now let us do away with all this, shake hands all round, and get acquainted. How delightful it is to sit here by my fire these long winter evenings and have a chat with my brother farmer, living one hundred miles or more away, concerning the characteristics, profits, &c., of the different breeds of cattle, sheep and other stock; the best method of applying manure and cultivating different crops, and all the little items that go to make up a farmer's experience. Now I think, Mr. Editor, if we would take hold of this thing and pull all together you would be ready to cry "quits" very soon, (if you are not so already). But before I close, let me say that I feel thankful that we have such an excellent medium of intercourse as the Farmer. J. W. G.

Cummington, Mass., March 1, 1869.

Remarks.—Sooner than cry "quits" to our correspondents we will increase the space in our columns, even to the doubling of the present dimensions of our sheet. So fire away, brother farmers.

MIXING ASHES, HEN MANURE AND PLASTER.

I wish to inquire through the Farmer if the mixing of ashes, hen manure and plaster together, for corn in the hill, will hinder either of the ingredients from having full effect on the corn? If so, how should they be applied?

William Allen.

North Holland, Vt., Feb., 1869.

Remarks.—Hen manure is a very rich fertilizer. It contains considerable ammonia. If you mix ashes with it, the alkali contained in the ashes will set the ammonia free, and you will lose it. If you mix plaster with the hen manure it will absorb whatever escapes from it and hold it fast. If it is desired to save the labor of going over the field more than once, these ingredients may be mixed in the morning and applied to the hill and covered up on the same day, and no loss take place. If ammonia escapes, the soil and plaster will take it up.

MAPLE SUGAR SEDIMENT.—NORWAY OATS.

The questions in your last, relative to maple sugar, can but best answered by the chemists in our Agricultural Colleges. Let sugar makers in the vicinity of them send the sap-grit or other residua of sugar to them for analysis.

The sap from my trees seems to deposit two tangible substances besides sugar. First, what is called sand; but it is not *silicious* sand at all; for when mixed with sap or water it dissolves and disappears in a moment, being taken into solution again, apparently. A friend, after chewing this substance, and then a piece of the maple, asked if the grit were not woody fibre, both tasting alike. The increase of it, toward the close of the sugar season as the weather becomes warmer, seems to show that the laboratory is more busy for summer products when helped by co-operative outside influences.

Secondly, when we make dry sugar, the pan or kettle in which the work is done becomes coated with what we call *lime*. Where much sugaring-off is done, this has to be removed, for it will scorch, and scorch the sugar above it. This substance too dissolves readily in cold or warm water. Now this may be very much the same as the grit, or a mixture of it and lime and sugar. There must be lime, I think, for where the maple stands among granite, instead of limestone rocks, there is much less of this scaly deposit. The chemist, alone, can make this all plain.

After forty years' close watching, I cannot always tell when it is a sap-day without visiting the trees. We never get sap, however, with an east wind, and but little with a south. Zephyrs appear to solicit a flow of the sweet juices with success.

The Norway oats, first grown hereabouts, are liked by some, disliked by others, and by others are considered just as good as any.

Chelsea, Vt., Feb. 22, 1869. C. N. Andrews.

CULTIVATION OF CELERY.

I notice in your paper of February 20, an inquiry as to the cultivation of celery. I will give my method which works well, and is about the same as that practiced in all this neighborhood:—

The seed is sown under glass about April 15. It will be from ten days to two weeks in making its appearance. By June 1, the plants will be about two inches high, and then are set one foot apart in rows six or seven feet apart, the space between the rows being occupied by onions, cabbage, cucumbers or any other low growing crop that will be off by the middle of September.

Sometime from the first to the last of September, according to the time the celery is wished to mature, the ground must be cleared of all other crops, and banking commenced. This is done by ploughing between the rows to loosen the soil, and then two men with shovels, one on each side of the row, with a boy to hold up the leaves, throw some four to six inches of earth against the plants. This operation is repeated at intervals of about two weeks until the desired height is reached.

Celery treated in this way is usually in order for market from the middle of October to Christmas. For later use, the plants would be pricked out in some moist, rich spot and left till July, then set as a second crop after potatoes, strawberries, &c., and will need but little banking, the white growth being mostly made after the plants are set in their winter bed.

Belmont, Mass., Feb. 22, 1869.

CANADA AND THE STATES.

I did not intend to accuse the Farmer of unfairness towards us, for I never saw a Canadian who read the Farmer who did not like it. Neither did I wish to be offensive myself, but if my points seem too strong, I can only say that it is my fault, perhaps, to condense too much.

Another point I might have noticed, which was a sore one in its time, to wit: the substitute business. It was the fashion a few years ago for men on your side, who made it their business, to kidnap persons on this side of the line and sell them.

We cannot influence your control of your own affairs, but we do protest against unjust and false accusations being made against us, as reasons for acts of one kind or another. We protest against such statements as Alice Carey made in the New York *Independent*, that there was as much difference observable on crossing the line "forty-five" as there was between the free and slave States. False, every word of it. We are not afraid of the truth, but we do not like to be defamed by States' people, for they are our near relatives as well as neighbors.

"The Canadian crusade against American silver," is spoken of as if this crusade were on account of its being *States'* silver. That has nothing to do with it. The difference between gold and silver is the same here that it is on your side. If it were otherwise, it would pay to buy silver here and exchange for gold there. Our bank notes are good for their face in gold, so we have the disadvantage of two currencies; our merchants get principally silver but are obliged often to pay gold. No one pays gold or paper who can pass silver at par, as any considerable amount of silver is very inconvenient to carry on the person. Markets next time. J. G. Field.

Stanstead, Can., Feb. 24, 1869.

Remarks.—It is a common remark that "one-half of the world don't know how the other half lives," and very probably it would be about as true to say that one-half of the world don't know how the other half feels. Believing it would do both halves good to have a better understanding of each other, we have presented our correspondent's views, and are glad to know that he does not hold us responsible for all that "Alice Carey" and other *Independent* scribblers may have said.

PRETTY NEAR A RIDDLE.

Capt. Joseph Weston of Skowhegan, Somerset County, Maine, was born and spent the thirty-six first years of his life in Massachusets, and for the last fifty years he has been a resident of Maine. Though not of a roving disposition, he took up his abode for a time in an unincorporated plantation; his residence was then changed to the township of Canaan, but not exactly pleased with that "promised land," his next dwelling place was in the town of Bloomfield, and finally he stuck his stakes within the limits of the euphonious Skowhegan. During these peregrinations he was a citizen of three several counties,—Lincoln, Kennebec, and Somerset, as well as of the two States of Massachusetts and Maine. And yet Mr. Weston has lived on one farm and in one house all this time! He was born in the house, built by his father in 1793, lives there still, and has never moved nor lived in any other! G. A. W.

Skowhegan, Me., March, 1869.

EARLY GOODRICH, HARRISON AND SEBEC POTATOES.

I have been much interested in the experiments of your correspondents in relation to raising potatoes. No doubt the success in obtaining large crops is attributable in a measure to extraordinary care in cultivation, yet these results would not be attained without attention being paid to the kind of potato planted. Last spring I planted on meadow land the Early Goodrich and Sebec. The latter proved a failure, while the Early Goodrich far exceeded my expectations. I planted the Early Goodrich on upland and they did equally well. I planted the Harrison for a late potato, and they gave such satisfactory results that I shall plant them almost entirely for a late crop. I selected 28 of them which filled a half bushel measure.

Methuen, Mass., March, 1869. Hill.

GOOD FENCES AND GOOD NEIGHBORS.

It is very necessary at this season of the year to be preparing to have everything go on cheerfully during the coming season. And among other good things we want good neighbors. In spending a few hours with one of my neighbors, not long since, an elderly lady asked an old gentleman what was the best thing to make good neighbors. After a moment's hesitation he replied, "keep good fences." What could he have said in so few words that would comprehend as much? It certainly saves a great deal of bitter feelings to have fences that will protect our gardens and other crops from the injuries resulting from poor fences and unruly or stray cattle. But how much more necessary is it that we should have our ears fenced, so that the stray words of the vile slanderer shall not break in and destroy the tender plants of friendship and love; and our mouth so fenced that no harsh expression shall break out to do our neighbor wrong? Don't let us forget, then, this spring, as we put up the bars and repair the fences of our fields, to build anew or strengthen those which protect the garden of the heart from the coming in and going out of those evil communications which make more trouble among neighbors than all our unruly stock. Then shall love shine from every eye and peace and good will reign in every heart. V. B.

Brookfield, Vt., March, 1869.

PREPARING LAND FOR SEEDING.

As much has been said about preparing ground for seeds, especially greensward, I thought I would give my plan: Plough from five to seven inches deep, spread on the manure evenly, take a bush, and if it is not heavy enough without, lay on a piece of board and get upon it; continue to bush it until the manure is entirely pulverized and mixed with the soil. By this time all the sods not turned under in plowing will be torn to pieces, and the ground become light and mellow. By this plan we get the benefit of the manure at once and continue to have it through the season.

E. P. Luther.

North Dorset, Vt., Feb. 23, 1869.

MOLASSES FOR SORE TEATS ON COWS.

I wish to obviate the trouble of obtaining the medicine suggested by John Whatmore in the Farmer for Feb. 13, 1869, for the cure of sore teats on cows, by introducing one that is its equal, and perhaps better, and one easily obtained, viz:—West India Molasses. Keep a cup of it at the barn in the season of the year when it is needed, and apply it to the teats occasionally. It is a sure preventive as well as a cure. Though simple, try it. It will be found all it is recommended.

A Subscriber.

Newport, N. H., Feb. 22, 1869.

PLAN OF A BARN.

I like the plan for a "model barn" in your Saturday's paper. As I am about building a barn, I should like to know where I can see one like that you represent in the Farmer, plans, cost, &c. I especially like this plan, because the stock is so completely separated from the hay.

Charlestown, Mass., Feb., 1869. Isaac Cook.

Remarks.—You can see a barn constructed on the plan of the illustration given in the Farmer, on the farm of Mr. J. H. Bent, in the village of Concord, Mass.

Bleeding Veal Calves.—The Massachusetts Society for the Prevention of Cruelty to Animals give notice in the last issue of their publication, "*Our Dumb Animals*," that after the 30th of March they intend to enforce the law against the starvation and bleeding of veal calves before being slaughtered. They have been informed that, by certain butchers, "the calves are starved from Sunday night until the next Sunday night, besides being bled every twenty-four hours to stop the bleating and to whiten the 'veal.'"

AGRICULTURAL ITEMS.

—It is estimated that there are now at work in England 300 steam ploughs.

—Ward Knapp, East Lyndon, Vt., has a hen which a few days ago laid a sound egg shell, without the usual filling.

—Moses Clough of Orange, Vt., is the owner of a goose 59 years old, which has raised an average of six goslings a year for 58 years.

—The Chicago grain elevators are said to harbor 10,000 rats apiece, and it is estimated that these vermin eat $400,000 worth of grain and flour annually.

—The Annual Fair of the Addison County, Vt., Agricultural Society will be held this year, on Tuesday, Wednesday, and Thursday, Sept. 14, 15, and 16.

—A bill is before the Massachusetts legislature which requires that the constituent parts of fertilizers, with a statement of the percentage of each constituent part, shall be marked on each bag.

—The *Ohio Farmer* of February 20, says that the sheep panic in that State is subsiding, and that sheep which could not have been sold three months ago for 75 cents each, are now in demand at $1.50 to $3.00.

—The Legislature of Michigan has voted to grant the University of Michigan the sum of $15,000 annually, without any conditions, such as have hitherto been coupled with propositions to give such aid.

—The following are the officers of the Attleboro', Mass., Farmers' Club:—President, Geo. Price; Vice Presidents, S. M. Stanley, D. D., W. H. Wilcox; Secretary, J. E. Hunt; Treasurer, E. G. May; Executive Committee, G. Price, T. A. Stanley, H. Richardson.

—The following officers of the Somerset Central Me., Agricultural Society for 1869, were elected at a well attended meeting February 6th. Ex-Gov. Coburn, President; Col. Daniel Snow and Gen. Isaac Dyer, Vice Presidents; John Weston, Secretary; Wm. B. Snow, Treasurer; B. M. Hight, Horace Eaton and Warren Bussell, Trustees.

—The editor of the Marysville *Tribune* has been favored with the hind quarter of a buffalo cow, forwarded by a friend at Fort Harker, Kansas. It was cut up and parcelled out to the citizens of the village at 20 cents per pound. "The sentiment of all who were lucky enough to get a steak, was that it was rich, juicy and delicious."

—Beecher says that "the only way to exterminate the Canada thistle is to plant it for a crop and propose to make money out of it. Then worms will gnaw it, bugs will bite it, beetles will bore it, aphides will suck it, birds will peck it, heat will scorch it, rains will drown it, and mildew and blight will cover it.

—The San Francisco papers complain that the yield of wheat in California has fallen from forty bushels an acre down to twenty bushels; and that, if the present improvident style of farming continues, the crops will not average over twenty bushels an acre. The old custom of burning the stubble and straw, instead of turning it into compost, is objected to.

—The sprouts of the potato contain an alkaloid termed by chemists *solanine*, which is very poisonous if taken into the system. This does not exist in the tubers, unless they are exposed to the light and air, which sometimes occurs from the accidental removal of the earth in cultivation. A potato that shows a blackish-green tint on one side should never be cooked for the table or fed to stock.

—The most common error of men and women is that of looking for happiness somewhere outside of useful work. It has never yet been found and never will be while the world stands. Of all the miserable human beings it has been our fortune to know, they were the most wretched who had retired from useful employments, in order to enjoy themselves.

—A correspondent of the *Journal of Agriculture* in advocating proper fastenings for open barn doors and gates says that more than half the wear and tear of barn doors comes from *slamming*, and that when a boy he came very near being killed by a barn door which was closed with great force by a gust of wind. The cattle had knocked down the prop which had been placed against it when opened.

—A writer for the *Turf, Field and Farm* in suggesting that horses which herd together are oftener injured in their rough sports than in combat, remarks that the bite of the horse, even in play, is no trifle, for, from some peculiarity in the muscles of the jaws, they do not seem gifted with the facility to let go, like the dog. The jaws become locked and the piece must cut out or the teeth slip off and crack together before he again seems able to control their action.

—The *Dixie Farmer* says, all the world wears cotton, and cotton is the only thing that all the world can afford to wear. In round numbers, there is computed to be thirteen hundred millions of people in the world. Of these, it is estimated that twelve hundred and twenty-five millions wear cotton, seven hundred millions exclusively and the balance partially. Of the remaining seventy-five millions, fifty millions go naked and twenty-five millions wear skins of animals.

—The *California Farmer* of January 21, speaks quite enthusiastically of the great activity of farmers in that State. "Hill sides and hill tops to the very summit are being brought under the dominion of that *Sword of the Earth*, that divides limb from limb, and particle from particle, and prepares it for that "Baptismal Font" which shall fulfil its destiny. What would the farmers of the East say to see the furrows of our grain planters, one, two and three miles long 'straight' as an arrow, and to see ten, twenty, forty, or one hundred sets of ploughs in our own grand valleys all at work at the same time, some single owners having forty "gang ploughs," two, four, or six ploughs each at work. Let our Eastern farmers come here and we will show them such ploughing scenes as they never *dreamed* of before."

—The *Germantown Telegraph* says that the old Montgomery County Agricultural Society, Pa., has never encouraged horse racing, and its fairs have been well-attended by the best and most respectable practical farmers in the county, and always satisfactorily sustained.

—The Australian Meat Importing Company recently gave an entertainment to a company of English working men and their wives, at which Australian meats preserved with sugar and salt was served in various forms. Though some of the dishes were rather salt, the meats differed but little from that of animals slaughtered in England.

—It is said that the government of Ontario, (Can.,) is about to undertake the experiment of draining the "Greenock Swamp," comprising some 92,000 acres. The expense is estimated at something over $241,669. On a portion of this track it will be necessary to raise the water by steam power. It is believed that after draining, the land will be worth about twice the cost of the work.

—A Detroit correspondent of the Boston *Commercial Bulletin*, says that one reason why more sheep than usual have been slaughtered the past season in Michigan is the fact that the demand for sheep to be taken West to stock new farms, heretofore amounting to many thousand a year, has ceased, and consequently this surplus must be otherwise disposed of. The writer says the farmers of Michigan to-day have all the sheep they can feed, and more than were on hand one year ago.

—Previous to the war but little India cotton was sent to Europe. But during the war one and a half million bales were sent to England alone. The sudden development of this trade had a strange effect. Fabulous fortunes were made in a few months, and gold became so plentiful as to be a positive burden. The people went crazy about cotton and neglected to grow food, until a famine brought them to their senses. The *Dixie Farmer* thinks the South may take a lesson from the experience of India.

—A correspondent of the *Maine Farmer* writes: Three years ago last spring I took up several small elms from a thick growth, (they were from two to four inches through, and from twelve to fifteen feet high,) and transplanted them. I cut the tops of the trees off, broke a piece of glass as near the size of the tree as I could, and placed on the top. I then put a piece of woolen cloth over the glass, brought it down six or eight inches over the end, and tied with woolen yarn. The sprouts started out close up to the top, and on one a sprout started within half an inch of the glass, broke through the cloth, and in two years grew eighteen inches. Every tree remained perfectly sound. I left one tree without protection, which died.

—A member of the Oneida Community writing on the importance of mulching fruit trees and plants of every kind, says, that he mulched a row of the Franconia raspberry, and also one of the Philadelphia, side by side. The effect was very marked. While the Franconias which were not mulched were literally scorched, and the leaves crumpled in the sun, the row which received the mulching, carried through nearly double the crop of fruit. The material used for mulching was old, half-decayed buckwheat straw.

—Quite extensive preparations are being made for engaging in the cultivation of silk in California. One firm in Los Angelos county is putting out 60,000 mulberry trees, as a first instalment toward making silk on a very extended scale. They have a beautiful rancho at San Gabriel Mission, nine miles above Los Angelos. They have hired forty families of Chinese, skilled silk-workers, who are engaged for four years, and will be comfortably housed in adobe cottages, with ample gardens. At the expiration of the term, each family will be entitled to a deed of ownership for its house and garden.

—The *Maine Farmer* makes honorable mention of large colts belonging to the following parties: Joseph Knowles of Belgrade, two years old last May, weight 1110 lbs.; M. A. Goodrich of Bingham, two years old last June, weight 1100 lbs.; H. B. Knight, Hollis Centre, a "Gideon" colt, three years old, 16½ hands high, weight 1250 lbs.; Chas. Shaw, Dexter, one year old last June, good bay color, weight 1145 lbs. The sire and dam of this last mentioned colt were both raised in Woodstock, N. B., and are of Clydsdale and Messenger blood, and superior work horses. The sire, now five years old, weighs 1300 lbs., and the dam, still owned by Mr. Shaw, also weighs 1300 lbs.—a clean limbed, good styled animal.

HORSE RACING AT THE WEST.—At the recent Iowa Agricultural Convention, all the speakers but one objected to the continuance of the turf tests. They could not see the use of paying $[illegible]00 or $400 to owners of horses that were good for nothing but racing. The State Board changed the premium list for 1869 so as to exclude all horses that have ever "gone for money."

The Illinois State Board at its late meeting, adhered to its resolution of last year, prohibiting racing under the rules of the track.

The Michigan State Agricultural Society at its late annual meeting discussed the prohibition of racing at Agricultural Fairs, and left the matter in the hands of the Board of Managers of the several county societies.

PLANTING THE SEED.

HAVING prepared the soil and provided the necessary conditions for the growth of the plant, the next step is the planting of the seed, and this is a matter of no small importance. The best seeds must be selected. Plant only such as are plump and well ripened and pure. It is a waste of labor and soil to plant imperfect, shrivelled and foul seeds. Many seeds require some preparation for the soil. Wheat should be prepared by soaking in brine, solutions of copperas or saltpetre. Put the grain into a sufficient quantity of the solution to cover it; then stir it, and skim off all seeds that float upon the surface. Thus you will remove most of the weed seeds and imperfect grains. After soaking a proper time, pour off the liquid and dry the grain by mixing it with a sufficient quantity of plaster or ashes.

The drill is now generally admitted to be the best means of putting in wheat. It requires less seed, and puts it in the proper depth. In the autumn, if the land is in a suitable state, there is little danger of putting it in too deep. In the spring, especially if the soil is wet, there is danger that it may fail to germinate if put in too deeply.

Corn, too, should be prepared in the same way, as a security against worms and birds. Soaking in a solution of copperas is probably the best thing for corn. Some prefer a little tar dissolved in hot water. The corn should be put into this and stirred briskly, the water drained off and plaster mixed with it until the kernels no longer adhere together. Either of these preparations secure the grains from the worms, and seem to be offensive to the birds, and pay well for the trouble of applying them.

Corn should never be planted till the ground is dry and warm. If planted in cold, wet ground it will come up, if it come up at all, yellow and spindling, and will be slow in taking on a thrifty growth. It had better be planted late than in a soil in an unsuitable state. There is often much complaint that sweet corn will not come up. This is owing to the fact that much of it is not well ripened. Sweet corn for seed should be gathered early, and hung up in tresses in the sun, and remain exposed to the sun until it is thoroughly dried. It should be lightly covered in a dry, warm soil. If it is planted too deeply in a cold soil, much of it will rot before it germinates. Sweet corn contains but little oil. It takes in water rapidly, and when there is not sufficient heat in the soil it is apt to decay. Good management will often save the vexation of failure.

Garden seeds often fail from being covered too deeply in the soil. As a general rule, it may be said that the small seeds require a very light covering. The larger seeds, as peas and beans, may be covered more deeply. Many flower seeds fail to germinate from too deep planting. We should learn wisdom from the processes of nature. The seeds that drop from the pods of flower stalks, and from weeds and grasses receive but very slight covering or none at all, and a sufficient number of them germinate. Beet and mangold seeds often fail to germinate from being planted too deeply. Many suppose the beet seed to be a large seed; but the seed as we see it is merely a burr or pod, each compartment of which contains a very small seed. Every gardener knows that several plants often spring from what is called one beet seed. This is because the burr contains several distinct seeds. Beet seeds should be soaked a day or two in water and then covered very lightly in a warm, mellow soil. Beet seed we think should be planted on ridges made by back-furrowing two furrows together. The ridge should then be flattened by a light roller and the seed planted on this at regular intervals, and slightly covered. The seeds of tomatoes, lettuce, cabbage, parsnips and onions should be covered very lightly. The ground in which the two latter are sowed should be made very fine, and after the seeds are sown should be flattened with the spade or a board, or what is better with a light roller. This prevents the soil from becoming too dry before the seeds germinate. If parsnip and onion seeds are soaked for a day in water and then dried with powdered soot, or with plaster, they will be more sure to germinate.

Much of the grass seed fails to germinate from being covered too deeply. When sowed with grain, the grain should be sowed and the harrowing completed; then the grass seed should be sowed and followed with the roller or brush harrow. Either of these simple implements will give it all the covering it needs. Clover seed may be sowed before a rain, or upon the snow in the spring. Sowed in this way, it will generally catch better than when worked in with the harrow. When sowed in the early fall without grain, a light harrow or the brush will cover grass seed to a sufficient depth. We would always roll the ground if possible, before sowing grass seed. It is then deposited more evenly upon the surface, and the brush or harrow covers it more evenly and uniformly.

Many farmers may think that these minute directions are mere trifling, and of no importance, but every skilful gardener knows that his success often depends essentially upon his attention to them. Attention to little things often leads to great results and the neglect of them to great losses.

USE THE ROLLER.

Some three or four years ago we recommended the use of the roller in the spring upon ground that had been seeded in the previous autumn to grain or grass, and stated that it would prevent to a great extent, the effects of what is called winter killing. On heavy soil thus seeded down, the water freezes in the surface and throws out many of the roots of the grain and grass. These exposed to the sun and wind soon dry up and perish. Sometimes we see a large part of the plants on considerable patches of a field thus thrown out, and the consequence is an almost entire loss of the crop. If the roller is thoroughly applied to fields in this condition as soon as the frost is out of the ground, these roots will be pressed into the ground, and most of them will grow again. If a few bushels of ashes, or two or three hundred pounds of plaster to the acre are spread before the roller is applied, it will be all the better.

We are reminded of our remarks upon this subject by some very sensible and timely words in a recent number of the *Western Rural*, in which the writer advises the use of the harrow, followed by the roller, where winter wheat has been thrown out by the frost. This is a difficulty to which wheat culture on the prairies is very subject. The fierce winds which prevail there also carry off the soil, leaving the roots of the grain exposed, so that plants are often found hanging by only one or two roots to the ground. In all such cases he advises the use of a sharp harrow, to be followed immediately by the roller, as soon in the spring as the ground will bear the team, without "mashing." He says, "do not be afraid if you see a few plants clinging to the harrow teeth. The roller will bury them in the soil, and they will take root like transplanted cabbages." He gives his experience with this practice for the past eight years, and says there will be great need of it in his section the present spring.

Now we may be thought extravagant, but we have no doubt that the faithful use of the roller last spring on the fields sown broadcast to winter wheat would have increased the crop of last year several millions of bushels. Probably it would have made up the estimated deficiency of fifteen millions from the year before.

Where the drill or plough was used to cover in the wheat, the roller will not be as much needed in the spring, because the roots will not be as badly thrown out as in broadcast sowing. But it may be often used to advantage even here, especially when grass seed is sown with wheat, as the roller leaves the surface smoother and better fitted for the mowing machine and rake.

Farmers throughout the country are coming to the conclusion that better methods of wheat culture must be adopted if they would save the great "bread crop" from utter deterioration and ruin; and the use of the roller in the spring is a useful expedient that may be safely resorted to, so long as broadcast sowing is practiced. When the time comes in which we shall speak of *planting* wheat and shall cease to use the term *sowing* altogether, we shall use the hoe and cultivator, instead of the roller.

A CITY MERCHANT AS A FARMER.

Many of our readers will remember a little notice published last summer of the farming operations in Shrewsbury, Mass., of our friend Joab Hapgood, whose name was so long connected with the gun store at No. 15 Washington street.

The change from a Boston store to a country farm is so great that we had the curiosity to inquire what had been his four years' experience, not on his physical health, as his ruddy countenance was a sufficient index of that, but on his agricultural enthusiasm, and farming expectations. We were glad to find that he is as enthusiastic as ever, and as ready to talk of cultivation, crops, and profits as when he turned his back on Washington street.

His land being at no great distance from Worcester, his operations take the form somewhat of market gardening, though he still adheres to field cultivation, raising both corn and hay. His corn field this year produced at the rate of sixty-eight bushels per measured acre. His yellow corn is a cross of the Webster and Parker varieties—8 rows and large kernels, of which 140 selected and about 160 average ears produce a bushel of shelled corn. He showed us a tress of twelve ears which weighed five pounds and eight ounces, and measured from eleven to twelve inches in length. He spreads fifteen loads of about 30 bushels each of manure upon the land, and some ten or twelve loads in the hill. He also showed us a specimen of a very early variety, which he said was fit for boiling in nine weeks after planting, which was done the past year on the 9th of June. This is a white or buff-colored variety, eight-rowed, with shorter ears, and though good for cooking is not a "sweet corn." He obtained the seed in Rockport, Mass., and says that he has increased the original size of the ears about one-third by cultivation. He is now hybridizing it with a larger variety. Specimens of both these varieties may be seen at the seed store of Hovey & Co., Boston.

We also made some inquiry as to his manner of feeding his cows which are the only horned stock that he keeps. He thinks much of corn stover. Winters two cows on the husks and stalks of an acre of corn, and the clover hay from another acre of land. His stalks are run through a hay-cutter, and for a feed he fills the one-half of a flour barrel sawed in the middle, wets them with cold water and adds a quart of shorts and a little salt to the mess for each cow. Such a feed is given night and morning. At noon the cows have dry hay or stalks. From each half barrel mess of cut corn stover his cows reject as orts from one to four quarts of the hardest stalks. This keeps his cows in good order; one of them at this time being in fair condition for the butcher.

His farm keeps his hands and his mind busy. In the study of nature as her powers are displayed in hybridization, in the various processes of growth, maturity and reproduction of crops and animals, he never tires. Every season, every day brings something new, and he has no desire for the pleasures and amusements of city life.

NEW PUBLICATIONS.

ON THE CATTLE PLAGUE: or, Contagious Typhus in Horned Cattle: Its History, Origin, Description, and Treatment. By H. Bourguignon, Doctor of the Faculté de Paris, Fellow of the Society de Medicine de Paris; Laureate of the Institute of France, Member of the Legion of Honor, etc. Philadelphia: J. B. Lippincott & Co.; London: J. Churchill & Sons; Boston: Lee & Shepard. 1869.

As indicated by the title page, this work is divided into four parts: the first contains the history of this typhus from the remotest times down to the present day; the second part gives a description of the disease; the third gives some plain instructions for the benefit of farmers, cattle-dealers, and dairymen; and the fourth part treats of the scientific means and safeguards to be adopted to prevent in future such a state of helpless panic as England fell into on the late appearance of the disease in that country.

The author objects to the use of the word "Plague" as borrowed from the gloomy vocabulary of the middle ages, and as tending to perpetuate or cover up popular ignorance, and says the common habit of confining our observations of disease to the phenomena which strikes the eyes, instead of fixing them on the general causes by which these phenomena have been produced, leads to misapprehension both as to the nature and treatment of cattle complaints. Believing that the disorder—rinderpest, plague, or ox-typhus—which was so fatal to the herds of England is the same as that which has prevailed in Europe from the earliest times, even from the days of Homer and Plutarch, he censures the indifference which is manifested in one country to the fact of the existence in another country of this or other fearful historic "epizooty." He regards the quarantine measures that are frequently adopted on the approach of diseases as of little avail, for the real plague, typhus and cholera may be borne along by the winds of heaven, and pass over the longest distances and the highest obstacles. He does not believe, as some contend, that the "ox typhus" as he prefers to call the Cattle Plague, is owing to any peculiar organization of cattle in those sections to which its origin has generally been traced, but to the climate and circumstances in which they are reared, and to the effects of the hardships to which they are exposed in their transportation to market. In relation to the climate, &c., of the banks of the Volga, Don and Dnieper rivers in Russia, and the Danube in Hungary, Mr. Bourguignon, says:—

> In those countries which are damp, argillaceous, and swampy, and which are inundated by the overflows of their lakes and rivers, or by the reflux of the sea, there is deposited a slimy or brackish water, which a temporary torrid heat afterwards causes to ferment; and then a superabundance of life, a teeming vegetation, springs up in all directions. In the midst of this swarming vitality live and thrive an infinity of worms, maggots, animalculæ, insects, mollusca, fish, reptiles, birds, &c.; and here, too, all these creatures die and decay, when this slime, the prolific source of generations which we might look upon as spontaneous, begins to dry up and disintegrate. Then from these organic vegetable and animal matters, in a state of decomposition, escape those deleterious gases, such as hydrogen, carbonic oxide, nitrogen, carbonic acid, sulphuretted hydrogen, and even phosphoretted hydrogen.
>
> Often to all these causes of infection are added myriads of grasshoppers, which cover the ground, where they die, aggravating the mass of pestiferous vapor which fills the atmosphere. Finally, the water which slakes the thirst of the herds of cattle is corrupted; the plants on which they feed distil poisons; the air, the water, and the plants, carry within them a principle of venom and death. After this, how can we be surprised if this flood of putrid emanations is transformed into a contagious typhic virus, whose subtle and pestilential effluvia are conveyed by the ox to considerable distances?

In relation to the power of man and of different animals to resist the causes which produce contagious diseases, the author states a theory which is new to us. He says:—

> "It is an important fact, which deserves our most pointed attention and consideration, that the vital resistance inherent in the animal frame to withstand the attacks of these contagious diseases, is very far from being the same throughout the

whole kind. Man, in this respect, is the most favored and best fortified; he is able, without much degenerating, to inhabit any latitude, to go with a sort of impunity, if his calling require him to do so, amidst the most pestilential emanations, and to continue for hours inhaling their baneful fumes. We could quote many striking examples of this resisting power in man.

Next to man with respect to this power of vital resistance come the omniverous animals, or those that eat both flesh and vegetables; then the carniverous, or those that eat flesh only; and last of all, the hervivorous, or those that subsist on vegetables, in which this faculty is very feeble indeed. If this theory is correct, if sheep, cattle and horses offer a much weaker resistance to the causes which generate infectious and epizootic diseases than other animals it should certainly be understood by farmers. The author of this work says:—

> All vegetables and animals, with the exception of *adult* men, whenever their health declines from any cause (but more particularly from paucity of food), spontaneously generate microscopic parasites, or very minute insects, the germs of which are inherent in their system. A flock of fleecy animals, wasted by deficient food in dry and parched meadows, becomes attacked in due time by a parasitical cutaneous disease, known as the *itch*, which is enough, if not checked, to destroy the whole. Now, all that is required is to remove this flock to a more fertile soil, where there is plenty to feed them, and the disease will disappear of itself without any treatment. Deficiency of food destroys the health of animals, and abundance of food overcomes disease in them.
>
> We selected six healthy sheep, which we kept well supplied with provisions; we covered these healthy sheep with parasites (acari). On every one of these sound, well fed sheep, the microscopic animalculæ died off without generating the cutaneous disease; for the blood, the humors, and the skin of sound and healthy sheep constitute a soil unfavorable to the propagation of these parasites, and actually starve them to death.
>
> After this first experiment, we subjected these six sheep to a deficient diet; they grew lean, their blood was impoverished, and then all we had to do was to lay upon them not thousands and thousands of these parasites—as we had done in the first instance—but one solitary female in a state of fecundity; and the parasitical distemper unfolded itself so fiercely as to cause the death of three of these sheep on which the test was allowed to run its course; whilst the other three sheep, having been restored in time to a recoverable condition just as they were about to drop off, were thoroughly cured, without any special treatment, by the sole influence of good food and ordinary hygenic attention.

We have copied these few extracts from the first part of the book, not by way of a review of the work, but simply as illustrative of the author's mode of treating his subject. We regard the work as a very valuable addition to books on cattle disease. It contains many facts and suggestions that may have a bearing on questions connected with the Texas disease.

—Warren Percival, of Vassalborough, Me., has a herd of 56 pure blood Durham cattle. His farm is celebrated for the production of fine breeds of cattle, hogs and sheep.

For the New England Farmer.

WHEAT MATTERS.

As your correspondent, Wm. R. Putnam of Danvers, says he took the wheat fever from reading my articles, and as he bought some seed wheat of me, I was much interested by his statements, and regret that his experience in wheat culture should have been so unfavorable. Still I am pleased to learn that he raised twenty bushels from the single one he obtained at Andover, which was certainly a splendid crop. About the same time Hon. Levi Bartlett of Warner, N. H., purchased seed of me and for eleven years he had only two partial failures. But, Mr. Putnam tells us, the next year not only his wheat rusted, but his hopes were also blasted! Was this brave? Have his potatoes never rotted? Have his apple and other fruit trees always produced a large yield? How has it been with his pastures, his meadows, his oats, his rye, his beets, his turnips, his onions, his cows, his horses, his pigs—are all these uniformly productive, uniformly healthy? If not, has he abandoned them all? Are rust and blight, maggot and fly, drought and flood, potent for evil to the wheat crop alone? Had I failed the *second* instead of the *sixth* year in the cultivation of wheat, when the rust reduced my harvest to twelve bushels per acre, I might possibly have been discouraged, and, like friend Putnam, have concluded that it was cheaper to buy flour than to raise wheat. But thirty years ago the varieties of winter and spring wheat—especially of the latter—were less in number and inferior in quality to those we now have.

Mr. P. says "it costs me twice as much to raise my wheat as it does other crops and buy wheat." Some New Hampshire farmers once said to me, "we raise oats and buy our flour. We get forty bushels per acre and sell them for eighty cents per bushel, and pay $18 a barrel for flour." My answer was, land that will give forty bushels of oats will give twenty-five bushels of wheat. Flour at $18 is equal to $4 a bushel for wheat. The oats give $32 per acre; the wheat $100. They were "astonished at the doctrine," and with one accord said "we will raise our wheat," believing that wheat is a safer crops than oats in a series of ten years, which is undeniably true.

The further answers that I would put in, appear in the FARMER of Feb. 13, simultaneously with Mr. P.'s article, in the excellent and practical communications of Jacob Fuller, Esq., East Wallingford, Vt., and from "J.," Oak Hill, N. Y. I need no better indorsers. I thank these gentlemen for their timely rescue, and would urge farmers to read these communications for themselves.

With myself it has been a *Vicksburg fight* from the beginning, and I hope the powder will hold out till the victory is secured. Sometimes an editorial "remark" may show a little weakness, or a failure may now and then be reported, yet the FARMER and other New England papers teem from week to week with statements showing most encouraging success and unabated confidence and hope in wheat planting. Why then be nervous and fidgetty at a little "rust" that may occur once in five or six years, which may generally be avoided, if the grain is brined, ashed, and limed, and planted on high, rolling localities, early in spring or the last of summer, that it may head off the hot sun and sweating vapors of "dog days."

Is it too much to say that wheat raising should be the great enterprise of the New England States to-day? The labor of digging and housing an acre of potatoes, say five days for one man, is at about the same cost as the ploughing, sowing and harvesting of an acre of wheat. This crop is cheaply made. We hope the farmers, *one and all*, will put in their spring wheat early on the high warm lands, and not forget their winter wheat the last of next August to the first of September. Fallow with clover, if manure is short, or turn in the mowing sward and sow on that, which gives the largest yield where there is no manure. Strong descending grass land is best for winter grain. HENRY POOR.

Brooklyn, L. I., Feb. 15, 1869.

For the New England Farmer.

CANADA STOCK AND RECIPROCITY.

An article in the FARMER written by a correspondent at Stanstead, Province of Quebec, complaining that Canada is misrepresented or not understood in the States, reminded me of a little incident that occurred at the Brighton market last October. While looking about the yards and talking with various individuals and drovers, I mentioned the subject of Canada cattle, and inquired if there were any in the yards that week. A gentleman replied that there were a few, and seemed anxious to show them to me. But what was my surprise, on being shown some of the poorest kind of French Canadian stock, once called Alderney, but so degenerated by breeding in and in that they have become so small that they are not much larger than some of our Cotswold sheep. I found that the Brighton people thought them to be a fair specimen of Canada stock. I certainly felt a little chagrined, as no doubt many of our farmers in this vicinity would, under like circumstances. I found that Canada was regarded a cold, frosty place, and that such cattle were considered a fair representation of the stock of such a country.

Well, I must admit that our French Canadians do raise poor stock in many places, because, as their fathers did, so do they. Inhabiting as they do the richest portions of our country, they ought to be foremost in trying to improve their stock; but it is much with them in regard to stock-raising, as it was with their old "*traineau*," where the horse went in the middle of the road, which they could not be persuaded to give up until a law was made forbidding their use.

The cattle I saw at Brighton are bought cheap and are preferred by speculators and drovers from your country to choice stock, because they can make money on the purchase.

I would just say that in the counties of Compton, Stanstead, and Shefford there are as fine and good breeds of cattle as can be found in New England, or perhaps in any of the United States. Accompanying this I send you an account taken from the Burlington *Free Press*, of a visit to Hillhurst Farm, Compton, P. Q., M. H. Cochrane, proprietor, which I hope you will see fit to publish in the FARMER at some future time. We feel proud of such a man as Mr. Cochrane, as he once was a poor boy and worked out from place to place for his living. His success is the result of persevering industry and honesty, and I hope many of our boys will imitate his example.

I see that some of your writers are afraid of free trade with Canada. The abrogation of the Reciprocity treaty, they contend, has been of vast benefit to the public chest or revenue. This may be so; still I think if a good reciprocal law could be made by the two nations and do away with that numerous class of officers maintained by both governments for a space of 1500 miles, for the purpose of enforcing the present law, a better state of feeling would exist, and the increase of trade would balance all the profits arising from the duties now paid by each government. We are not inclined to whine because your people will not favor a reciprocal law. We have shrewd men among us, good water power, and we may become a manufacturing community. Lumber of all kinds has advanced since the abrogation of the Reciprocity Treaty, and your purchasers and builders feel the effects very much. H. FRENCH.

Eaton, Compton Co., P. Q., Feb., 1869.

REMARKS.—We have published several notices of Mr. Cochrane's stock, and should be pleased to print the article referred to, but our correspondents, just now, claim the lion's share of our columns. Our idea of "free trade" and of "reciprocity" is not realized by any "treaty" which offers our markets to one portion of our neighbors on more favorable conditions than those which are imposed on our own citizens, or on our other neighbors.

For the New England Farmer.

CAN WE RAISE WHEAT
IN NEW ENGLAND?

Having read in some of the last issues of the FARMER, some advice on the above subject, I venture to say a word and give my experience in the matter. Two years ago next month, I had a nice smooth field containing five acres of rich sandy loam, about sixty or seventy feet above the bed of the third branch of White river, on which my farm is situated, and inclining to the north east. The spring before, I had broken this field, planted it to corn, manuring in the hill at the rate of about eight cords to the acre, and had a good crop of about fifty bushels to the acre. The spring of 1867, I ploughed this piece nicely, procured the best seed I could find, and sowed it to wheat the last days of April. After ploughing I spread about seven cords of clear sheep manure on the poorest parts to make the piece as even as possible, and seeded with two and a half bushels herdsgrass and forty pounds clover seed. About the first of June I spread a light coat of leached ashes on the whole piece. On account of heavy showers just before the grain was ripe, it could not be cradled, but it was mowed and saved with much care, not shelling at all. It was threshed with a machine soon after and not exposed to waste by threshing or otherwise, and the yield was sixty-four bushels of inferior quality.

Now I am sure that this crop was not as profitable to me as oats would have been, but perhaps what I lost in that crop I have, and shall gain in the grass crops from the same piece. Last year the two crops were estimated at over three tons to the acre.

This is the best wheat land I have, and it seems to me that if I should follow Mr. Baker's advice of February 27, it would not pay me very well "to sow wheat where I raise corn the year before, without regard to the location of the piece." S.

West Randolph, Vt., March 1, 1869.

For the New England Farmer.

SUGAR MAKING.

With most of the recommendations suggested by the members of the Westminster, Vt., Farmers' Club, in the report of their discussion of this subject recently printed in the FARMER, I am well pleased, while there are a few which I cannot approve. Mr. N. G. Pierce says, he prefers the wooden spouts, with a bit of half inch, boring three inches deep. He thinks the amount of sap drawn from the tree depends more upon the depth of the hole than on its size. Though but a boy, I have made sugar every spring since I was large enough to do so, and I find that I get just as much sap by boring ¾ inch deep as by boring three or four inches deep. I believe no tree should be bored more than one inch in depth, if the perpetuity of the orchard is desired. I prefer a three-eighths bit and wooden spouts. Pare off the rough bark bore ¾ inch deep, and drive a nail just below the spout and hang on the bucket.

Mr. O. Peck says two spouts will run as much again as one, and if the tree is of good size you may put two, three or four buckets to a tree. I have always noticed where we have bored two holes, say from six to eight inches apart, using two spouts and one bucket, we get no more sap during the season than we should from one spout. If the tree is of good size we may tap twice, using two spouts and two buckets. Spouts should fit in the bark and not in the wood.

Perhaps a description of some of the arches in use here will interest sugar makers in other sections. In some cases, they are built of the right length and breadth for the number of kettles or size of pans used. For kettles, they are three feet high; for pans, about two. The back end is built plain the same as the sides—the chimney being on the left hand front corner. Then through the middle of the arch, lengthwise, is laid a tier of bricks as high as the sides, and extending from the end to within one foot and a half of the back, and the left hand of the front being bricked up. In the half of the arch next the chimney, stones are raised so as to throw the blaze against the bottom of the kettle.

Another way which is very good, is to build the arch about three feet high, and of a length and breadth according to the number of kettles you set. The kettles should be set in a line one after the other; the chimney being upon the further end. With arches properly built after either of these plans a great saving of wood is effected, and this is becoming with us an object of much importance. In the first plan the fire travels back on the opposite side of the division, instead of blazing up into the air, as I have often seen it, through chimneys of good height.

Another convenient arrangement is to have the sap-holder a little higher than the top of the arch, so that by the use of a piece of pipe and a stop cock the sap may flow continuously into the evaporator, but so slowly as not to check the boiling as is done when a bucketful of cold sap is poured in. A. C., JR.

Bethel, Me., March 8, 1869.

ADVICE TO DAIRYMEN.

At the recent meeting of the Illinois and Wisconsin Dairymen's Association, Mr. Willard of New York, said some excellent things. Among them were the following:—

In the matter of securing fine flavor in both butter and cheese, some points have been entirely overlooked in previous discussions. It is only recently that the true causes influencing the flavor of dairy products have attracted our attention. And among these the question of clean, pure water for stock, has not been sufficiently appreciated. Milk contains 87 per cent. of water, and it would hardly seem reasonable to expect that the animals could overstep the laws of nature and manufacture good milk from stagnant water; yet, such has been the case, and because manufacturers have not been able to make a good product out of such milk, they have been blamed. With all our knowledge and experience in New York we have not been able the past year to obviate having some bad-flavored cheese during the hot weather, especially the July cheese. I took some pains to study this question, and I found by examining farms in numerous instances that stagnant putrid water was one of the leading causes. There were other causes, but this one was invariable. In one instance the cause was attributed to the milk of one of the patrons whose cows had been drinking from frog ponds. This man changed his fences so as to get good water, and so the trouble ceased. In the private dairies of New York and England, particular attention is paid to this matter. On farms where springs are deficient, the defect is to be overcome by digging a well and applying wind-power for pumping, which can be inexpensively erected and are durable. It is the best plan to have the water pumped up into a tank, and so arranged that it can run back into the well after it has stood a short time, as this will prevent its becoming contaminated by foul gases.

Another point on which the old dairy farmers are in error, in which is the cause of great impurities in milk, is the bad construction of milking stables, most of them little better than pest houses, owing to bad ventilation. So bad are some of them that I have seen delicate women faint away in them in hot weather. Follow the milk which comes from these places to the factory, after having been confined in the can under a close fitting cover and you will find it most offensive in odor and putrid. If there is any manufacturer present who can make clean flavored goods from such milk I should like to see him and hear his process. In this respect the English farms are ahead of ours. Their milking stables are open on one side, cool and well ventilated and milking made a pleasure to animal and milkmaid. But I must say the new dairy districts are in advance of the old in this respect. The West may get ahead of the East yet, as every thing is new here, there are no prejudices to counteract.

I have said dairy farming promised to be remunerative and enduring. The statement needs modification. It *does not promise* to be remunerative to those who make a poor or inferior product. It is also ruinous to the dealer. I have watched the history of failures among provision merchants, and it is the poor stuff in the end that breaks the camel's back. After you have provided a clean, well ventilated milking stable, let each milker take a pail of water and towel into the stable, wash the cow's udder and wipe it dry with the towel, and then proceed to milk; you will then have no filth dropping into the pail, and water is so cooling and grateful to the animal, that she is quieted, gives down the milk at once, and will yield enough more during the season to pay the whole cost of milking. It is an inhuman practice to cut the cow's tail to get it out of the way of the milker; by means of a rubber band it may be fastened to and unloosed from the cow's leg.

SHERIDAN'S RIDE.

In his Essay on Horses, read before the Vermont State Agricultural Society, Mr. L. T. Tucker repeated the following very appropriate lines:—

Up from the south at break of day,
Bringing to Winchester fresh dismay,
The affrighted air with a shudder bore,
Like a herald in haste, to the chieftain's door
The terrible grumble and rumble and roar,
Telling the battle was on once more
And Sheridan twenty miles away.

And louder still those billows of war
Thundered along the horizon's bar,
And louder yet into Winchester rolled
The roar of that red sea uncontrolled,
Making the blood of the listener cold,
As he thought of the stake in that fiery fray
And Sheridan twenty miles away.

But there is a road from Winchester town,
A good broad highway leading down,
And there through the flash of the morning's light
A steed as black as the steeds of night
Was seen to pass as with eagle's flight.
As if he knew the terrible need,
He stretched away with his utmost speed;
Hills rose and fell, but his heart was gay
With Sheridan fifteen miles away.

Still sprung from those swift hoofs thundering south,
The dust like smoke from the cannon's mouth,
Or the trail of a comet sweeping faster and faster,
Foreboding to traitors the doom of disaster.
The heart of the steed and the heart of the master
Were beating like prisoners assaulting their walls,
Impatient to be where the battle field calls,
Every nerve of the charger was strained to full play
With Sheridan only ten miles away.

Under his spurning feet the road
Like an arrowy Alpine river flowed,
And the landscape fled away behind
Like an ocean flying before the wind,
And the steed, like a bark fed with furnace ire,
Swept on with his wild eye full of fire.
But lo! he is nearing his heart's desire,
He is snuffing the smoke of the roaring fray
With Sheridan only five miles away.

The first that the General saw were the groups
Of stragglers, and then the retreating troops.
What was done! What to do,—a glance told him both
Then striking his spurs, with a terrible oath
He dashed down the lines 'mid a storm of huzzas,
And the wave of retreat was checked there, because
The sight of the master compelled it to pause.

With foam and with dust the black charger was gray
By the flash of his eye and the red nostrils play
He seemed to the whole great army to say,—
I have brought you Sheridan all the way
From Winchester down to save the day;
Hurrah! Hurrah! for Sheridan,
Hurrah! Hurrah! for horse and man.

And when their statues are placed on high
Under the dome of the Union sky,
The American soldier's temple of fame,
There with the glorious General's name
Be it said in letters both bold and bright,
Here is the steed that saved the day
By carrying Sheridan into the fight
From Winchester, twenty miles away.

—Chicago shipped seventy-eight bushels of wheat in 1838. The amount shipped in 1868 was upward of 40,000,000 bushels.

EXTRACTS AND REPLIES.

WHITE WASHING SHINGLES.

I wish to lay several thousand shingles next spring. I intend to whitewash them either before or after laying them. How will it do to fill a molasses hogshead with fresh sawed fir shingles, and pour in lime-water enough to cover them? Should the lime-water be as thick as common whitewash? Should it be warm? Will two or three hours' soaking be sufficient? E.

Paris, Me., Feb. 1, 1869.

Remarks.—Lime in the shape of whitewash has been applied to shingles in various ways. Mr. Ed. Emerson of Hollis, Mass., informs us that he sometimes soaks his shingles in thin whitewash, at others he applies the whitewash to the shingles as laid on the roof. He lines with red chalk, then whitewashes the course last laid down to the line, and after the building is shingled he whitewashes the whole roof. From much experience he believes it makes the shingles last twice as long as when not whitewashed. He puts nails not over two inches apart, and does not drive them so as to sink the head, but leaves them so that the heads of the nails may hold up the buts of the next row of shingles sufficiently to allow the circulation of air. The late Dr. Brown of Wilmington, Mass., prepared sap shingles by throwing them into a large kettle in which the whitewash was kept boiling, where they were kept a few minutes and then thrown out to dry. A roof thus covered was in good order at the time he wrote, twenty-five years after the shingles were put on, and he then added, "it may do for years to come." The addition of salt has been recommended by some, but to this it has been objected by others that the salt causes the nails to rust off.

FRUIT ON A HILL FARM.

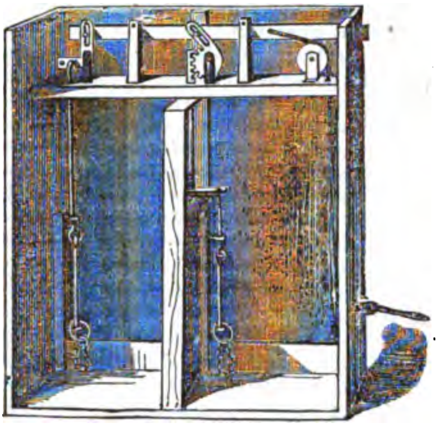
Here on the hill farms of Vermont we do not expect to compete with the orchards of Massachusetts or the valley of the Connecticut in raising fine fruit. On the contrary so general is the impression that our climate and position are unfavorable to its growth that but little attention is given to orcharding. Some sixteen years ago, I determined to make a little experiment in this line on my hill farm, but was so fearful of being laughed at by my neighbors for engaging in fancy farming that I procured my trees and set them out "on the sly." I fenced off a little rocky, and rather bleak spot near my buildings and set out some 150 trees quite near together. Compared with those set in richer and more sheltered locations my trees have made a small growth. But considering the amount of land occupied and the labor expended, I have been very well satisfied with their product. For the purpose of encouraging young farmers on the hill farms of this and other New England States to attempt to raise at least a few apples for their own use, I will give them the following statement of the products of my orchard for the past year.

Merchantable Apples sold	$110.00
Reserved for family use	40.00
Cider	8.00
Hay	15.00
Fall Feed	4.00
	$177.00

Reading, Vt., March, 1869. J. P.

WINSLOW'S SAFETY CATTLE TIE.

Calamities like that which recently occurred in Burlington, Vt., where by the burning of his barn, Mr. W. R. Vilas lost about one hundred and forty animals, should induce farmers to adopt some measures for the greater safety of their stock. The above cut is an illustration of a plan devised by Mr. C. P. Winslow, of Westboro', Mass., to release all the cattle in a stable by one movement of a lever outside of the barn. It appears to be simple and practicable, and we hope it may obviate the objections which have prevented the general introduction of other forms of combination stanchions and ties that have heretofore been offered to the public.



BLACK LEG IN CALVES.

I lost five calves last fall by a disease called the "black-leg." When taken, the calves are rather stupid, walk stiff, refuse all food, breathing becomes labored; they show a disposition to lie down a considerable portion of the time; are costive, and appear to be in great pain. Some are very much bloated, and when dead, the blood settles on the back and neck and in the legs. The best calves usually take the disease and die. What I want to know is, what the disease is, and what is a remedy? E. P. Luther.

North Dorset, Vt., March, 1869.

Remarks.—The disease is an ugly one, a sort of murrain or epidemic among cattle. It is known by various names, as *black-leg*, *black quarter*, *quarter-ill*, *joint-murrain*, *blood-striking*, *&c.* Some veterinarians suppose it to be an inflammatory fever; but under whatever name it may go, it is a bad disease, and one that requires great care on the part of those who have anything to do with it. We can hardly look upon it as a *fever*, because some cattle of all ages and conditions actually have it. Youatt says that young stock, and those that are thriving most rapidly, are its chief victims. He adds:—

"Often without any indications of previous illness, the animal is found with his neck extended; his head brought, as much as he can affect it, into a horizontal position; the eyes protruding and red; the muzzle dry; the nostrils expanded; the breath hot; the root of the horn considerably so; the mouth partly open; the tongue enlarged, or apparently so; the pulse full, hard, and from 65 to 70; the breathing quickened and laborious; the flanks violently heaving, and the animal moaning in a low and peculiar way."

Sometimes the animal is in the full possession of his senses, but usually appears unconscious of things about him; will stand for an hour or two without moving, and when moving, staggers. The disease does not always appear in the same place. Sometimes the first symptoms are tenderness on the loins and back, swellings about the shoulders, with a peculiar crackling noise, and there is great sensitiveness to the touch. In another animal the disease may appear in hard, scurvy patches of what seems to be dead skin. These ulcers first appear about the belly, the quarters and the teats, but spread everywhere. There will also be several other exceedingly offensive symptoms. The conjestion is everywhere. This is called *black-quarter*. The disease is most prevalent among young stock, and is most frequent in the spring and fall of the year.

These symptoms will be sufficiently plain, we think, to lead to a proper conclusion as to what the disease is when they are present.

Now what is the remedy? Some practitioners resort to the most heroic bleeding and purging. This does not seem to us to be the best course, and we therefore give the treatment prescribed by Dr. Dadd in his work on the *Diseases of Cattle*. He commences the treatment thus:—

Spirits of Hartshorn	4 drachms,
Tar-water	1 quart,
Tincture of Bloodroot	1 ounce.

"Mix the hartshorn and tar-water first; then add the bloodroot. Drench (dose No. 1).

"The object in giving the hartshorn is to decarbonize the blood, and impart healthy, stimulus to the nutrient system of blood-vessels and nerves; and this agent will do it.

"Should the animal show any lameness in the back or hind-quarters, apply the following:—

Oil of cedar	2 ounces,
Sulphuric ether	2 ounces,
Tincture of capsicum	1 ounce,
Cod liver oil	6 ounces.

"First, mix the two oils; then add the other, and shake them thoroughly; lastly add the tincture.

"The object in applying this preparation is to arouse capillary attraction, and thus prevent the engorgements, which, according to the best authorities, are everywhere found.

"Four hours after administering "dose No. 1," drench the patient with the following:—

Liquid tar	1 ounce,
Glycerine	4 ounces,
Thin gruel	1 quart.

"This dose may be repeated at intervals of four hours, until symptoms of improvement are observed.

"The tar is a powerful antiseptic, and prevents decomposition and mortification.

"All sores and ulcers must be dressed with pyroligneous acid, and kept constantly sprinkled with powdered bloodroot; abscesses punctured with a thumb lancet, syringed with soapsuds, and their cavities crammed with fine salt. Wash sores about the mouth with liquid tar. If the patient be weak, give goldenseal in two drachm doses, mixed with the food."

We have thus gone at considerable length into this case, because the disease is a terrible one, and if once gaining a foothold, may spread through a wide region, and result in great disappointment and heavy loss. We have made all the inquiry, and searched all the books at our command, and have given such a description of symptoms as cannot be mistaken, and remedies which are sanctioned by high authorities.

We suppose the doses prescribed above may be intended for grown cattle; if so, the practitioner must vary them according to the age of the animal treated.

SUPPOSED OVARIAN TUMOR.

In the winter of 1867, Mr. Daniel Griffin, of Starks, Me., lost a cow under the following circumstances. In the summer and early autumn she began to fill up, and her body became so heavy and cumbersome, that it was with great difficulty that she could ascend a hill, or even gently rising ground. She continued to grow worse, that is, larger and heavier, until she came to the barn, when she could hardly walk. She was hearty, eat anything given her, and had the appearance of being heavy with calf, and was so considered by all who saw her. In a short time, however, she became so heavy that she could not stand, and was obliged to lie down all the time. She very soon died, apparently without any suffering, and was in good flesh, and hearty to the last. Upon being opened, a large sack, said to have been of the size of a forty-gallon cask, rolled out, apparently wholly unattached. Upon opening this, it had a honeycomb appearance, the cells being filled with a watery substance. It was estimated to weigh about 300 pounds. It might have been attached while growing, and the supposition is that it was; but no such connection was observed. All the other organs appeared to be in a healthy condition. Mr. G. and many of his neighbors are anxious to learn the name and nature, as well as cause of this phenomenon. ZEN.

Starks, Me., Jan. 23, 1869.

REMARKS.—This was probably a case of ovarian tumor. The attachment was to one of the ovaries, by a small neck, which might have been ruptured before death, or when the sack "rolled out."

It is very desirable that in all cases of unusual forms of disease, farmers would call on veterinary surgeons, or in their absense upon educated physicians in their vicinity, to examine and report upon them. We have no doubt that most physicians would cheerfully do the service.

PRESERVING MAPLE SYRUP.—BUTTER CASKS.

Two years ago I procured several gallon jugs of common stone ware and filled them full of syrup made from the first flow of sap, weighing ten and a half pounds to the gallon; corked them tight and packed them in sawdust from seasoned timber, and put them in a cool, dry place. The result was we had this luxury for table use during the year, with all the nice flavor of freshly made syrup.

This success in preserving syrup led me to try another experiment with butter. Farmers who are accustomed to keep their butter on hand after the weather has become so warm as to make it difficult to forward it to market, have found much difficulty in keeping casks in which butter is packed from mildew, occasioned by moisture condensing on the outside of the cask. For two years, I have procured shavings of seasoned wood from a planing machine or turning lathe, and packed my casks as fast as filled, with the butter in them, so as to keep them from the air. When taken out in the fall my casks are clean and nice. Care should be taken to keep the barrels, or whatever is used to pack in, from contact with the ground or anything moist.

E. F. Sherman.

East Dover, Vt., Feb. 10, 1869.

CULTIVATION OF PEAS.—SAWDUST FOR BEDDING.

I see in a late number of the Farmer that "An Old Subscriber" wishes to know if peas will do to sow alone. They are raised here very extensively, as we get a better crop of wheat after peas than any other crop we put in, and more sure than a summer fallow. Our soil is clay loam and black muck. Sow two bushels per acre the last of March or first of April, cut enough for seed and turn the hogs in the last of July and let them harvest them, during which they fat very fast.

I wish to inquire through the Farmer if it will pay to haul oak sawdust one mile to litter the stable to absorb the liquid, or will it be likely to sour the land if too much is put on. I know it pays as far as the stock is concerned, for it keeps them as clean and nice as though they were out at pasture.

Hudson, Mich., Feb. 15, 1869. L. M. Briggs.

Remarks.—On our hungry New England soils sawdust compost works well. We have used it ourselves to a limited extent; and some of our correspondents have used it largely. Mr. B. F. Kinney used 100 cords in nine months. There is danger of its fire-fanging. After trying various plans Mr. K. found it best to let it remain in as solid a body as possible until he drew it out, putting on water enough to keep it from heating too much. In the field he put it in flat heaps, two or three cords in a heap, and a foot thick after it was well trodden down. Mr. J. Cross said, "I have used sawdust for bedding for ten years, and would not be without it if I could obtain it by going four miles for it."

DISEASE IN TURKEYS

I have for many years been a raiser of turkeys, and until within four or five years, have been successful; since that time my turkeys have been affected with what I term a liver complaint. They first refuse to eat, then become stupid, lag behind the flock, their excrement very yellow and watery, and in about ten days they die. I have never known but one to fully recover. This year I had forty-five hatched out and raised but six; most of them died of this complaint. On examination, I find the liver enlarged, and covered with white blisters. I have bought them in New Hampshire, grown and fattened thirty-six miles from here, and they would die of this complaint. Can any of your readers give a remedy? David Kimball.

Bradford, Mass., Feb. 23, 1869.

Remarks.—We are sorry to hear of any trouble among the turkeys, as they help us so much in our Thanksgivings. We suspect they obtain something on the premises which acts as a poison upon them, and especially as apparently healthy turkeys from a distance are affected in the same way when brought to the premises of the writer. Are your neighbors similarly affected?

A PRINCIPLE IN BREEDING.

I believe that most of our cows are spoiled at the start, for breeding. Many farmers have their heifers come in late, and they couple them with anything that will bring them in milk. I think it all important that the first should be the best they can find, if the cow is to be kept for stock or for the dairy. William F. Loomis.

Langdon, N. H., Feb., 1869.

Remarks.—We agree with you that the "*first*" should be the *best* of its kind. The strong probability is that the *first* impregnation has an influence on the subsequent progeny of the cow; or at any rate, just as likely to prevail as anything that follows. So if you employ a diseased and badly-formed animal as a sire, you would scarcely expect anything different, as a certainty. Like begets like. We have neglected this matter too long in all our stock, and especially so in the case of horses, where only one in ten is of good form, is sound and has a fair power of endurance. Scatter your views among your neighbors, and the farmyards about you will appear better in a few years.

A DISEASED CALF.

I have a last years' calf that recently appeared to itch badly; so much so, that she licked the hair off her sides and back of the shoulders, and became a perfect scab. I did everything I could think of to heal it, and am obliged to keep her in the stancheons to prevent her tearing the hide off. There is no appearance of lice, but from her ears to her shoulder is a perfect scab. Can you tell what it is or what to do for it? I have raised many calves and am at a loss to account for this, unless she had too much cotton seed meal when young. A Subscriber.

Providence, R. I., Feb. 20, 1869.

Remarks.—Will you apply a saturated solution of carbolic acid, one ounce in a pint of water, apply once a day with a soft sponge, and see the effect? If the disease is what is called *mange*, the scab or scurf will be yellow, somewhat resembling corn meal; the hair will become loose, the eyes dim, the appetite poor, and the countenance languid. Mange is a contagious disease.

PARIS GOLD MEDALS FOR MOWING MACHINES.

Will you please inform me through the columns of your paper what mower did really win the gold medal prize at the Paris Exposition? By so doing you will confer a great favor on the writer and the community at large, as we often see circulars and advertisements of different mowing machines claiming to have won the gold medal.

Lancaster, Mass., Jan. 9, 1869. John Lovell.

Remarks.—A somewhat detailed statement of the first day's trial of mowers at the Paris Exposition, written by a correspondent of the *Prairie Farmer*, who was an eye witness, was published in the weekly Farmer for July 13, 1867, and at page 399 of the Monthly for that year. Nineteen different machines were entered for competition.

At the close of this day's trial only eight machines were named by the judges for a further trial,—the Wood machine being No. 1, the McCormick No. 2, and the Perry No. 3, all American machines. On the final decision Gold Medals were awarded to Walter A. Wood, of Hoosac Falls, N. Y., and to C. H. McCormick, of Chicago, Ill., and a Bronze Medal to J. G. Perry, of Kingston, R. I., for mowing machines. A list of the principal prizes and medals awarded to exhibitors from New England was published in the weekly FARMER of July 6, 1867.

WHITE PINES FOR WIND-BREAKS.

I thank you for your kind assurance that the ashes I placed around my apple trees will do them no harm, and as I feel interested in, and wish to do what I can for my young orchard, I have been thinking I would, for the purpose of forming a protection, place a belt of some kind of trees on the north, and would like to know whether White Pines would answer the purpose, and if so, when will be the proper season to transplant them.

Bristol Co., Mass., Jan. 19, 1869. G. R.

REMARKS.—White Pines are easily transplanted, grow rapidly, are hardy, and will subserve an excellent purpose as a shelter. Two rows are better than one, the back row to face the openings in the front row. You will find capital examples on the line of the railroad between Boston and Providence, where they are placed to prevent drifts from blocking the road. Transplant the last of May, just as the young growth of the branches appear. Dig up the sod with the roots, and not allow the latter to come to sun or wind. The trees must be kept thick at the bottom, and in order to secure this they must be headed down. If this is neglected, the leading stem will shoot into the air, throw out lateral branches, and the lower limbs will die and drop off.

ROSENDALE CEMENT—STEAMING FOOD FOR STOCK.

Can you or some of your readers give information with regard to the Rosendale cement,—such as is used in laying bricks in the Hoosac Tunnel? I am preparing to construct a water-tight cellar, and want the best cement to lay the bricks in. I understand that the Rosendale cement hardens under water, and grows solid with the lapse of time. If so, it is what I and many other farmers want. Where is it manufactured, and of what materials, and where to be had, and what the cost per cask or hundred? And the cost of common cement, per cask, in Boston?

Can you or your correspondents give us more information about steaming food for stock? Some of the members of our club are intending to put in steam works another fall. Will those of your subscribers, who are engaged in steaming food for stock, give us the desired information? If there are any objections, let us have them. There is no question at the present time, that is occupying the attention of the farmer, of more importance than that of feeding stock. P. C. TRUE.

Pittsfield, N. H., Feb. 17, 1869.

REMARKS.—The Rosendale cement is sold at retail for $3.25 per cask, and can probably be purchased of any dealer in cements, as it is in common use in most country villages.

With regard to steaming food for stock, we know of no well authenticated experiments made in this country. Many experiments have been made, but not with sufficient accuracy to justify their being quoted as reliable data. We usually give in the columns of the FARMER, all that seems to be of value on this subject; shall continue to do so, and hope for more light from some of the members of your club.

POULTRY ACCOUNT.

I have figured up my poultry account to the first of January, and send to you for publication if you choose. The account began December 1, 1867, and ends January 1, 1869. At the commencement there were forty-six hens and four roosters; six hen turkeys and one cock; nine geese and seven ganders, and about thirty pigeons. On the first of January, 1869, the stock consisted of fifty-six hens and four roosters; ten turkeys and one gobbler; nine geese and six ganders, and twenty-five pigeons. Therefore there should be credited to the poultry about $15 or $20 more. I have charged the poultry with everything fed to them, except the sour milk from one cow, and about six bushels of small potatoes. On the other hand, no account has been made of the eggs used in a family of three,—perhaps twenty-five dozen. The poultry was all sold at Faneuil Hall Market, Boston, and mostly to D. A. Dunbar and Nathan Robbins.

1867–8	*Poultry.*	*Dr.*	
To 107 bushel	Meal	$134 97	
“ 29 “	Oats	28 40	
“ 78 “	Corn	116 69	
“ 5 “	Buckwheat	10 27	
“ 11 “	Cracked Corn	15 38	
“ 15½ lbs.	Bone	46	
“ 150 “	Scraps	4 87	
“ 7 doz.	Eggs	2 70	
“	Picking	2 30	
“	Sulphur	10	
			$316 14
1867–8	*Poultry.*	*Cr.*	
By 90 pairs	Chickens	$260 72	
“ 149½ lbs.	“	51 00	
“ 485 “	Geese	117 16	
“ 405 “	Turkey	126 70	
“ 49 “	Squabs	12 67	
“ 66 “	Fowls	22 13	
“ 27½ “	Hen Feathers	4 95	
“ 15 “	Goose Feathers	7 15	
“ 374 doz.	Hen's Eggs	129 22	
			$731 70
	Profit		$415 56

Taunton, Mass., Jan. 26, 1869 SPECIALTY.

WHEAT OR OATS ON HARD, ROCKY LAND?

Can you or any of your subscribers tell which will do best on hard, rocky, burnt ground, wheat or oats? I saw an account of two brothers in Maine, raising potatoes and beans on burnt ground. I would like to know their method of preparing the ground, and also of planting. J. B.

Troy, N. H., Feb. 7, 1869.

REMARKS.—We should think either of them would grow nearly to perfection, on such land, where a heavy growth had been cut off and considerable of it burnt on the ground. We know nothing of the mode of culture adopted by the "Maine brothers," but should think potatoes would flourish exceedingly on such land wherever it could be made mellow enough to get the seed in and well covered over. We have planted potatoes on newly burned land, after what we called the Indian fashion. A heavy home-made hoe was struck into the ground at an angle of about forty-five degrees, the turf raised sufficiently to slip a potato under it and back of the hoe, which was then withdrawn, and the "hill" stamped with it in the usual manner. A fair crop of very clean and nice potatoes was the result.

SUGAR MILLET.

In a late issue of the Farmer I noticed a recommendation by Dr. Loring of sugar millet as green food for cows during the dry season. Doubtless many of your readers are entirely unacquainted with the cultivation of this article, who realize the importance of something of the kind to carry cows through the season of short pasture. Will you have the kindness to give all necessary information on the subject, with price of seed, and where obtained? P. X.

Guildhall, Vt., March, 1869.

Remarks—There are many varieties of millet. They all belong to the family of the Panic grasses. The two varieties that are chiefly cultivated in this country for forage, are the common millet, *Panicum Miliaceum*; and the Hungarian grass, *Panicum Germanicum*. They both yield large crops of grass that are excellent for soiling or for hay. Millet requires a rich, rather moist soil, which should be free from weeds, as the plants at first are small and grow very slowly, and are apt to be choked by weeds on old ground that has not been kept clean. It is not an early crop, but is one of great value. We know of no variety called "sugar millet." We presume that Dr. L. would be happy to answer any inquiries upon the subject. Millet seed costs about $2.50 per bushel. When sown for fodder about half a bushel per acre is generally used, and about twelve quarts when sown for seed. It is sown the last of May or first of June. It is cured much like clover. It is an annual, and must be sown, like oats, corn, &c.. every year.

TREATMENT OF DRY, SANDY LOAM LAND.

I have a piece of dry, sandy loam land on which I raised about seventeen bushels of corn to the acre last year. I want to get it into mowing. It is too far off to cart barn manure to it, if I had it to spare. How would it do to put on about a barrel of ammoniated guano, or Bradley's superphosphate of lime to the acre, and cultivate it in without ploughing, and sow buckwheat about the first of June; then plough under and sow winter rye and clover to plough under with the stubble after the rye comes off?

Would you advise to sow winter wheat and hay seed, or seed without any grain? Would I be likely to get rye enough to pay for my labor and hay enough to pay for cutting for two or three years? S. A.

Chatham, Mass., Feb., 1869.

Remarks.—We certainly recommend to plough the land, for that, in itself, is equal to a moderate manuring. The rest of your plan is not a bad one, but would it not be a *better* one to omit the rye? You would get three months' growth of clover to plough under by the first of September, when the wheat and grass seed ought to be put in. Then put in wheat, timothy, and red top grass seed, and it seems to us that you would have a fair foundation for good crops. Sow clover seed early in the following April. Any lands may be reclaimed in a manner similar to this; even poor, sandy, plain lands, that have produced scarcely anything but a few straggling blackberry vines and stools of "Everlasting white." It is a slow mode of fertilizing poor lands, but it can be done without taking a shovelful of manure upon them.

SAWDUST FOR BEDDING.

I wish to inquire through the Farmer if any one has ever used sawdust (from the seashore) for bedding for stock, and if so, whether its value will warrant one in drawing it eight or nine miles.

Biddeford, Me., Feb. 25, 1869. J. W. B.

Remarks.—It will depend very much upon circumstances. If you have an unoccupied team, and can occasionally spend half a day without interfering with regular farm work, we think it will pay for drawing it eight or nine miles. It is worth something in the first place, because the cattle and horses lie easier upon it than upon bare plank; and whatever tends to the comfort of the cattle, makes them more productive in one way or another. It is worth much as an absorbent in the stalls, and is valuable in the soil in two ways:—first, by taking there what manurial agent it has absorbed, and secondly by its mechanical action as a divider in compact or heavy soils.

THE "BISHOP" BREED OF HOGS

In reply to John Dimon, in the Farmer of March 13th, in regard to the best breed of hogs for raising pigs for sale and making pork. I will say that I think we have the best breed here, all things considered, called the "Bishop" breed. They are all white, small bones, with very thin rind, easily fattened, and make very large, handsome hogs. The following are the weights of ten killed here last fall, varying from twelve to eighteen months old, that were kept till within about two months of killing, on raw stuff and slop from the house, and the remainder of the time on boiled potatoes and meal,—viz. 400, 400, 450, 450, 465, 470, 500, 510, 560, and 625 pounds,—average 483 pounds. Pigs could be obtained in this neighborhood some time in May. H. M. B.

Curtis Corner, Me., March 15, 1869.

Remarks.—We are sorry our correspondent did not give some account of the origin of the "Bishop breed," as nearly every one interested in the subject will naturally desire information on this point.

HOGS IN ORCHARDS.

I have thought for several years that a barn cellar reeking with offensive gases was not the best place to keep hogs through the hot weather. I have made pens under shady apple trees, and have enjoyed seeing my swine on fresh earth and breathing pure air.

Last summer I went a step further and enclosed half an acre of apple orchard. My object was two-fold. I wanted the range and exercise for the swine, and I longed to see them root up and extirpate the witch grass, which I could not kill by any common means.

One old Sachem among the four turned in soon tried his tusks upon the tender bark of one of the apple trees. I put on coal tar. This this the hogs rubbed off upon their bodies, which made them look unsightly. So I washed all the trees exposed with whitewash, and had no more trouble.

It would have done you good to see the hogs root over that half acre. They did it again and again. They found worms and roots in the soil, seemed to enjoy their explorations marvellously. The lot was kept clean of every green thing all summer, on the surface, while the trees put on the deepest green and made wood rapidly. A part of the orchard was Hubbardston Nonesuch trees. These bore. I was proud of the apples. They were the finest I ever saw—large and high colored.

After the apples began to fall considerably I shut the hogs into a smaller space. This they rooted over often and deep, so that I was not obliged to cart in any earth all summer to keep the manure covered. They only required wood shavings, which I believe in supplying copiously, not to produce fire-fang, but to absorb liquids and provide a comfortable bed.

My experiment was so satisfactory that I have prepared materials to enclose a larger lot the coming season. If such treatment won't wake up all the apple trees they are past hope.

Call next summer, if you can, and see ploughing done without horses. **Wm. D. Brown.**

Concord, Mass., Feb., 1869.

AGRICULTURAL MATTERS IN MAINE.

At present people in this section appear to be more interested in political than in agricultural reading; almost every family having one or even two political papers, while a majority take no agricultural publication of any kind. The great inquiry is for political and light literature. Take for instance the town of Skowhegan, containing about sixty square miles and not less than 600 families—nearly every one of which takes one or more papers, and reads them carefully. Even those residing at a distance from the post-office will harness up and ride perhaps miles for their weekly paper. Yet some of these same men will refuse an agricultural paper because they live "so far from the post-office,"—and, in fact, for all these 600 families only about 125 agricultural papers are received at this office.

But this indifference to agricultural papers is not the worst part of it. We find not unfrequently a decided prejudice against them, based on the assumption that they are edited by men who have little practical knowledge of farming, but who recommend theories which are impracticable to the common farmer. But if agricultural papers impart no knowledge of practical use to the farmer, of what practical use is the knowledge obtained from his political paper? The men who conduct them care little for the interests of the farmer farther than to secure his vote. To do this, statements and appeals are often made which array one neighbor against another, and engender strife among those whose interests are one. Why shall we run after these fellows and neglect our own interests? The mechanic has his *Scientific American*, the lawyer his Acts and Resolves, his Law Reports, &c., the doctor his Medical Depostories and text books, and they patronize them liberally, because each obtains valuable information from them. Would you employ a physician who fails to keep up with the improvements and discoveries in the healing art, or the lawyer who pays no regard to the progress of legislation and legal decisions. From a somewhat careful observation among farmers, I find the best farmers, if not farms, best stock, largest and best crops, and in fact, a more thrifty farming community in every particular, where agricultural papers are liberally patronized than where few are taken. Our agricultural publications should meet those wants of the farmer which are met in the case of the mechanic, the lawyer, the commercial man, and the physician by those devoted to the interests of their respective professions.

Farmers here have paid some attention of late to wheat growing, but the weevil and rust are discouraging many. Though there is some good stock in this section there is not as much interest taken in its improvement as in some parts of the State. Potatoes have been the leading staple, but as only about fifty cents per bushel are now offered for them, many farmers are feeding them to their stock, as all kinds of marketable animals now command good prices. In good times potatoes have been drawn fifty miles to this market. The farmers here are generally "well off" and able to keep their products for a higher market, to sell at a lower figure if necessary, or to feed them to their stock. **Zen.**

Skowhegan, Me., Feb. 27, 1869.

USE OF SALT MEADOW MUD.

Can you give information respecting the value of salt meadow mud for a fertilizer? Also, best manner of preparing and using the same, and oblige **S. Chapman.**

East Dennis, Mass., 1869.

Remarks.—We have repeatedly inquired of persons living on the sea coast, or those having salt water creeks penetrating into their farms, whether the salt meadow mud is useful as a fertilizer? The usual reply has been—"I do not like it." We do not know of any well conducted experiments made with it, and wish some of our correspondents would give us information on the subject.

FEEDING HAY AND STRAW.

Going into "winter quarters" this season with an insufficient supply of hay, and being minus the wherewithal to purchase more, I adopted the practice of thoroughly mixing hay and straw, and with the exception of a small foddering of corn buts in the middle of the day, have given my cows nothing else. The greatest benefit resulting from this practice to me, is, I have learned a lesson of economy. Oat straw which I have hitherto regarded as worthless, or nearly so, as feed for stock, I am persuaded can be used with profit in the manner above described. True, it costs labor; and no person should attempt it who is not willing to give time and patience to the work. That word *thoroughly* must be rendered emphatic to fully understand the practice I have pursued. **B. G.**

North Montpelier, Vt., March, 9, 1869.

DISEASE AMONG SHEEP.

Can the editors or the readers of the **Farmer** give me any information as to the disease which is very fatal among sheep in this section? I have lost within six weeks about one-fifth of my flock, and some of my neighbors have suffered to nearly the same extent. Some of my best sheep are taken. They soon become weak about the hind legs, unable to stand, and die. On opening them I find a yellowish, globular substance under the skin, also about the kidneys, and a large mass of it at the large end of the heart. This substance might perhaps be better described by the word jelly. In fact it appears to pervade the whole carcass. It is found about the legs, and under the skin of the head and back of the eyes a mass equal to a large spoonful has been observed. The heart is much flattened away, and contains a little frothy fluid. Some of them have a large quantity, say two or three quarts of water not much colored among the entrails, and between them and the film which encloses them. The kidneys appear to be in their natural state, with the exception of this jelly-like, yellowish substance about them. The liver is nearly black and very tender or rotten. It is not spotted, nor are there many ulcers in it. The gall is small. The lungs appear healthy. The bowels do not adhere, but this yellowish substance is found about them, and also about the paunch, in large quantities.

My flock came from Salisbury, about thirty miles south of Plymouth, some twelve years ago, and no other sheep have been put with my flock. My young sheep are kept at one barn, and the older ones at another barn, separated by a highway. A stream of water passes through the yard in which my young sheep are kept, and with these the disease has been most fatal. The other flock has access to water at a little distance. The pastures in this section are hilly and dry. Many of my young sheep have become thin in flesh.

F. A. C. Nichols.

Plymouth, N. H., March 15, 1869.

Remarks. — Some of the above mentioned symptoms correspond with Mr. Youatt's description of a disease known in England as the Rot, while others do not. Dr. Randall says he has never witnessed an instance of this disease in the United States. We venture no opinion as to the name or treatment of the disease among our correspondent's sheep, but hope some of the readers of the Farmer may be able to do so.

A SICK COW.

I am a constant reader of the Farmer, but never have seen anything among your "Extracts and Replies" relative to a case I have of a cow. Nearly a year ago she commenced being lame in her hind legs; apparently healthy otherwise; no soreness appearing anywhere; a contraction of the cords seemed to be the trouble, and when walking, she scarcely will raise her hind feet from the ground, and a snapping noise is distinctly heard. Will you or the readers and correspondents of your paper inform me of the cause and remedy?

Randolph, Vt., Feb. 1869. B. H., 2d.

Remarks.—We cannot form any definite opinion without a careful examination of the animal. It may be rheumatism, or it may be paralysis. You had better consult some veterinary surgeon.

PEDIGREE.

I have a question to ask you. I have a heifer and I wish to find her grade. Her mother, which was from a full-bred Jersey cow, and half Jersey and half Ayrshire bull, was taken to full-bred Jersey bull, the result being my heifer, What grade of the Jersey is she? I took her last year to a full bred Jersey bull; and what grade is her calf?

A Monthly Subscriber.

Blackstone, Mass., Feb., 1869.

Remarks.—Your cow is three-fourths, your heifer seven-eighths, and her calf fifteen-sixteenths Jersey.

KICKING AND STEPPING COWS.

Having seen considerable in the Farmer lately about milking kicking cows, I will give my method which has been successful when everything else has failed. Take a strap two or three feet long, pass it round the hind legs above the gambrels, crossing it between the legs and buckle it tight. The beauty of this arrangement is, it does not worry or tire a cow while she stands still, but she finds it very inconvenient to do anything else. I always break my heifers to milk in this way, and never have kicking cows, neither will they keep stepping while being milked. J. W. G.

Cummington, Mass., March 1, 1869.

SICK PIGS.

Tell J. C. Miller, of Fort Kent, Me., whose pigs are troubled with a swelling of the hip, and are lame all over, to rub their issues on the inside of the fore legs with a cob and soft soap, and I will warrant a cure. E. K.

Bennington Centre, Vt., March 2, 1869.

WORMS IN HORSES.

The best remedy for worms in horses I ever tried is to give them plenty of poplar poles to gnaw at their leisure. The greasing process amounts to nothing with me. L. H. D.

Cornish, N. H., Feb. 1, 1869.

AGRICULTURAL ITEMS.

—A man in Launceston, England, recently lost his life by the sting of a bee on the jugular vein. Faintness came over him and he died within half an hour.

—A couple of red squirrels stole from the barn of Mr. Bixby, a farmer in South Reading, Windsor County, Vt., sixty bushels of corn, which they had stowed away in the barn loft.

—In England and France, dried fern leaves are used extensively for packing fresh fruit, grapes especially; they seem to possess, to an unusual degree, the property of preserving vegetable and even animal substances for a long time.

—The present class of scholars in the Industrial College at Orono, Me., now numbers seventeen, the average ages of the pupils being eighteen years. Of the number, ten are sons of farmers or have been bred to farm work.

—A correspondent of the *Rural New Yorker* says cattle can be fed in winter, on hay, for as many cents per day as the hay is worth dollars per ton. He thinks five sheep will eat as much as a full grown steer. Such estimates are, of course, very far from being exact.

—The farm occupied by Mr. Hyde, near Alton, Ill., consists of 400 acres: 100 acres of which are fruit planted as follows: 2000 apple trees, 3000 pear trees (of which 2300 are standard,) 1500 peach trees and ground prepared for 1000 more in spring, 500 cherry trees, 3000 grapevines, one acre of Lawton blackberries, 600 gooseberry bushes, 600 currants. The farm is intended exclusively for growing fruit.

—The *Maine Farmer* notices the following crops of wheat raised in that State last year. Mr. Forrest L. Stewart, of Corinna, raised fifteen bushels from half an acre of land and one bushel sowing, variety the "Lost Nation." (?) Joel Prescott, Esq., of Northport, raised twenty-six bushels of nice wheat from one acre. Mr. J. S. Morrill, of Albion, raised fifty bushels from two acres. He says he has raised *not less* than seventy bushels of corn to the acre for several years past, and was very successful the past year in drill planting.

—The *Maine Farmer* says that Mr. O. B. Churchill, of North Parsonsfield, recently sold a pair of two-years-old steers, six feet two inches in girth, to Mr. John M. Ames, of West Parsonsfield, for $190. The latter gentleman very soon sold them again for $213. Geo. H. Farr, of West Gardiner, has a pair of one year old, grade Durham steers, closely matched, well proportioned, and girthing six feet and two inches.

—A Maine man gives his method of treating baulky horses as follows: "Let me inform humane men and hostlers, and all who hold the rein, that the way to cure baulky horses is to take them from the carriage and whirl them rapidly round till they are giddy. It requires two men to accomplish this, one at the horse's tail. Don't let him step out. Hold him to the smallest possible circle. One dose will often cure him; two doses are final with the worst horse that ever refused to stir.

—Mr. H. Marsh, Hudson, N. H., says in the *Mirror and Farmer* that he has made and used a stump machine constructed as follows:—Take three pieces of common joists, put them together in form like the common harrow, letting the tapering or forward ends lap by each other some six inches, making a place for the chain to rest in. Cut off the roots at any distance you please from the stump, place the machine on one side of the stump, tapering end up, hitch the chain on the opposite side and pass it over the machine; then hitch a good yoke of oxen thereto and you will see the stump rise. He has cleared about three acres in this way.

—Of the English sparrow, which has recently been introduced into New York city, and is gradually spreading into the country, the following remarks were recently made by the chairman of the Haddingtonshire, Scotland, Farmers' Club: While it is true that they do some good by destroying the caterpillar, and the green fly in the bushes of the garden, yet they were destructive to the gooseberries; often they did not leave a single berry. They do great injury to the oat crop just before the grain arrives at maturity. He considered the sparrows "blackguards out and out."

—One rainy day a correspondent of the *Country Gentleman* counted the number of clover seeds in a cubic inch, and estimated that if he had counted a whole bushel the number would have equalled 27,000,000. As there are 43,560 square feet in an acre, he calculated that one peck would furnish over one seed to each square inch of ground. His estimates showed that a trifle over one pint of seed to an acre would give ten plants to the square foot. In seeding his land he waits until all danger from freezing and thawing is passed, and has had good success with less than four quarts per acre, sown after May 1.

ADAM RANKIN'S FARM.

This farm is in Warren County, Illinois, and contains eighty acres. Mr. Rankin received $20 at the Warren County Fair, for the best arranged and cultivated farm; the first premium of $15 on twenty acres of corn at one hundred and ten bushels per acre; the State premium of $50 for the best five acres of corn. One hundred and fifteen bushels per acre.

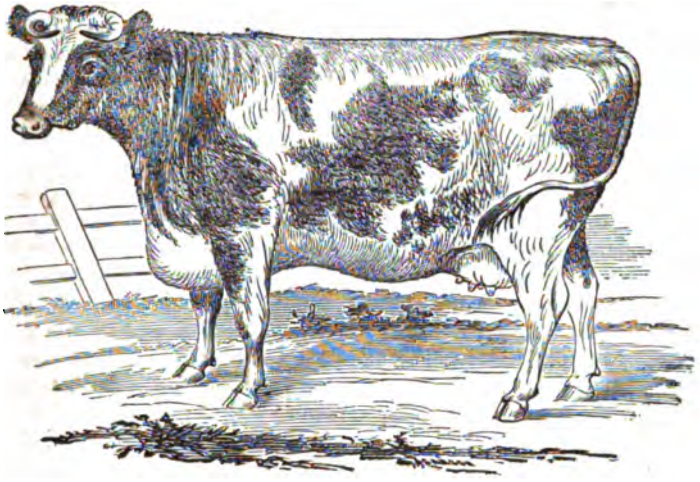
The crops on this farm amounted to $7160. Corn $1800; Surprise and Norway oats, at $5 per bushel, $1586; pork $1800; other hogs and horses $500; orchard and vineyard $1000. Cost of raising corn, $9 50 per acre, exclusive of his own labor. He says he has allowed no weeds to go to seed for several years, and now the land is easily kept clean. Thirty acres of corn was on meadow land, trench ploughed. Ten acres had one hundred loads of manure. This was ploughed and cross ploughed to mix the manure,—the last ploughing ten inches deep. There was not one hill missing on the ten acres. Three and four stalks in a hill. This grew two feet taller than his other corn. He wants to get one hundred and twenty-five bushels per acre on this field next fall. Most of the money made has been returned to the farm in improvements, drainage, manure, fine stock for breeding, &c.

His ploughing for potatoes and roots was ten inches deep. He says, I will tell you how I manage my hogs, or what I give them besides grain and roots:—

"I go to the coal banks and get a load, (twenty-five bushels) of slack coal and throw it on the ground, upon which I put one barrel of air slaked lime, and on the lime one bushel of salt, and from the way they eat it, and from the looks of their skin and hair it must be very good for them. At least I think it is just the thing for them, and they will never need anything else to keep them healthy, provided they have comfortable quarters and are properly fed. I have noticed my pigs when they have been shut up in pens for one day, run to the coal pile immediately on being let out and eat till satisfied, and all my hogs eat it just as regularly as they eat their feed. They eat the above amount in one month."

Certainly here are some very remarkable statements, especially when we remember that the average yield of corn in the State of Illinois for 1867 was but 23 8-10 bushels per acre. That they are correct is shown by the award of the premiums by men who had the means of knowing the truth. Such results show what faith in sound principles, accompanied by corresponding works, can accomplish. Deep ploughing and clean culture were the secrets of success. "Go thou and do likewise."

MILFORD, MASS.—The officers of the Milford Farmers' Club for the year 1869 are, President, J. E. Eames; Vice President, Richard Carroll; Secretary, Abraham Mead; Treasurer, Richard Carroll; Librarian, Elias Whitney; Executive Committee, Charles Leland, George H. Kendall, Henry Chapin.



SHORT-HORN COW OF DAIRY STOCK.

A few weeks since we gave some account of what we saw and were told during a brief visit with some of the dairymen of Worcester County, Mass., including a brief description of the Durham cows which are popular in that section. We were much better pleased with their appearance than we were with our description of them. It is therefore with much satisfaction that we are able this month to avail ourselves of the skill of an accomplished artist, in conveying a much better idea of this stock than could be done by any words of ours. In presenting the above illustration we assure the readers of the **Farmer** that here they may see

> ——"rising from the scroll,
> The image of the thought within the soul,"

which we brought away with us from our recent inspection of the short-horn dairies of Worcester county.

Of the Durham, as a dairy cow, Mr. Allen, in his late work on *American Cattle*, from which we borrow our cut, says:—

"Popular opinion, among those not particularly acquainted with their history or breeding, is widely at variance. They are the greatest milkers, in quantity, of any breed whatever—with the exception of the Dutch—as innumerable facts have shown; or they may be comparatively inferior, as education, keeping, or purpose may govern. We have numerous well authenticated instances of their giving six, seven, eight, and even nine gallons a day, on grass alone, in the heighth of their season, and yielding fourteen to eighteen pounds of butter per week, and of holding out in their milk, in proportionate quantity, as well as other breeds of cows, through the year. Cows so much larger in size than of other breeds, should be expected to give more than smaller ones, that consume less food; and without asserting that they do give more, in proportion to their size, it is claimed that when educated and used for the dairy chiefly, they give quite as much as any others. That the *inherent* quality of abundant milking exists in the Short-horns, no intelligent breeder of them need doubt. Our own observation in more than thirty years' experience with hundreds of them, first and last, under our own eyes, is to ourself, evidence of the fact, both in thoroughbreds and grades."

MASSACHUSETTS AG'L COLLEGE.

From the Sixth Annual Report of this Institution it appears that the whole number of students is eighty-five. During the first twelve months from the opening of the college, there were admitted, on written examinations, ninety-six students, of whom ninety-two were received as freshmen for a regular course. Seventy-four of them, at the time of admission, were acquainted with farm work, and thirty-five intended to become farmers, while forty-three were undecided as to their future business. Their average age was nearly eighteen years. The general conduct of the students has been all that could be desired, and it is especially worthy of remark that there was no case of "hazing" during the past year.

The health of the students has been most excellent. No death has occurred, nor any case of alarming illness. The average absence from duty, on account of sickness or wounds, has amounted to less than one day for each student during the entire year. The average for the summer term, ending August 5th, was less than one-half day for each person.

Nearly all the agricultural societies of the State have shown their interest in the College by voting to pay the term bills of one or more students, the amount per annum for each being $54.

At the present time the following societies maintain scholarships, viz.: The Massachusetts Society supports three; Essex and Plymouth two each; Barnstable, Bristol, Bristol Central, Berkshire, Franklin, Hampden, Hampshire, Hampshire, Franklin and Hampden, Hingham, Highland, Middlesex South, Norfolk, Worcester, Worcester North, Worcester South-East, and Worcester West, one each.

Although there are as yet but two classes, Freshman and Sophomore, a full course of study occupies four years, and there will be two other classes, Juniors and Seniors, as in other colleges, in due time.

From the sale of 360,000 acres of land given to Massachusetts, for the endowment of one or more colleges for the promotion of education in agriculture and the mechanic arts, $236,307.40 were received. Two-thirds of of the annual income from this fund is to be paid to the treasurer of the Agricultural College, and one-third to the treasurer of the Institute of Technology, an institution in the city of Boston, which is designed to afford to mechanics advantages similar to those which the Agricultural College affords to farmers.

From this fund the Agricultural College receives an income of $8,296.99, besides which it derives an income of $580 from the Hill fund for the maintenance of the Botanic Garden. The college farm contains 383 acres, and cost $37,000. The buildings are put down as costing $125,000; farm stock, $4000; implements $2000; farm produce on hand, $3000. Donations have been received from various sources. The town of Amherst gave $75,000, the Legislature has appropriated $70,000, and $100,000 is now asked for the erection of additional buildings, for a supply of water, tools, books, apparatus, &c. In closing his appeal for this appropriation, President Clark says, "the public confidence and interest in the People's College will thus be increased, and will appear in the large number of students applying for admission, and in the donations which will assuredly come for special objects from wealthy friends, as soon as they are convinced that its foundation is secure. 'For unto him that hath shall be given, and he shall have abundance.'"

NEW PUBLICATIONS.

ANNUAL OF SCIENTIFIC DISCOVERY: or, Year-book of Facts in Science and Art for 1869, exhibiting the most important Discoveries and Improvements in Mechanics, Useful Arts, Natural Philosophy, Chemistry, Astronomy, Geology, Biology, Botany, Mineralogy, Meteorology, Geography, Antiquities, etc., together with Notes on the progress of Science during the year 1868, a List of recent Scientific Publications, Obituaries of eminent scientific men, etc. Edited by Samuel Kneeland, A. M., M. D., Professor in the Massachusetts Institute of Technology, &c. Boston: Gould and Lincoln. 1869.

To those who have read the successive volumes of this annual, the announcement of the issue for 1869, is sufficient. But many of the readers of the FARMER have probably never seen a copy of the work, although it has been published about twenty years, having been commenced by Prof. D. A. Wells, at present employed by the treasury department as special revenue commissioner. The character of the Annual of Scientific Discovery is indicated by its title-page, and is simply an account of the discoveries and improvements that have been made in the various departments of Science and Arts in all parts of the world during the past year.

In looking over the volume we noticed among the statements of facts indicating the progress of chemistry, an account of "Dry-earth Disinfection." We are told that "this system is destined soon to attract a large share of attention throughout the world from physicians, and from sanitarians generally," and it is pronounced by Dr. Mouatt, the Inspector General of gaols in England, to be "without exception, the greatest public benefit conferred by a private individual, in a matter so essential to public health, that he is acquainted with." Now what is this wonderful scientific discovery? Simply the application to "closets" and the vessels of the sick room, of a very unscientific material, known as dry earth, or muck, so long used by our best farmers for deodorizing,—no that is a scientific word—for preserving the manurial properties abounding in their stables, pig-pens and privies! Let us, unlearned farmers, take courage. One of our coarsest operations—one that we almost blush to perform—has become scientific, and is minutely described in the "Annals of Scientific Discovery?" Thus profit, health and science unite in urging upon every farmer and upon every family the system of "dry-earth disinfection."

INLAND FISHERIES.

As the readers of the FARMER are well aware, we have always been favorably impressed by the experiments in pisciculture, or fish growing, in this State and elsewhere, and believe that it is an industry deserving not only of careful study but of a fair share of protection at the hands of our Legislatures. The subject is brought to mind again, by the report of the Commissioners of Fisheries, a document of great interest, and containing important statistics concerning this branch of industry.

It is gratifying to know that, even with the moderate amount of protection so far granted, there is already evidence that valuable migratory fishes, which had become almost unknown in certain sections, are once more beginning to return to their old grounds, and their increase, with the enforcement of proper restrictions against those who would "clean out" the streams for mere sport, is a question of time only.

The complaint now made in behalf of our inland fishermen, and those who depend on the tidal waters along the coast, is that our legislation has been partial, incidental, and spasmodic; and that one who intends to make a profession of fish culture, as others make a business of stock-growing, is obliged to go through the tedious and uncertain forms of special legislation for protection. Unless he is armed beforehand, he is not armed at all, however just his quarrel may be. The law recognizes his chickens and protects them; how it treats his fishes, the commissioners illustrate as follows:—

"He owns the land round a pond of twenty acres, and a fine spring-fed brook, which flowing thence, runs to the salt water. He puts up a hatching-house; digs his pools; makes a dam and flume. He hatches and rears large quantities of trout, which grow rapidly, and live in the pond and brook, and go also to the sea in their season. One fine morning, he finds half-a-dozen men fishing at the mouth of his brook, each one with a basket full of his trout. He remonstrates. They reply, 'tidal water!' and go on fishing. In despair he seeks consolation in his pond. Lo! there are more men with more baskets of his trout. Again he remonstrates. 'Great pond!' reply the anglers. 'Over ten acres—free fowling and fishing according to ancient charter!' Sadly he seeks to ease his mind by strolling up a tributary brook which comes in through a neighbor's land. Behold there is the neighbor himself, with a basket of trout taken from the brook. 'Very sorry,' says the neighbor; 'the *trout* may be *yours*; but the *brook* is *mine*!'"

It is suggested that our laws on the subject need only to be generalized into a system, and accompanied with suitable encouragement for the propagation of fish, to make our rivers alive again.

The commissioners, says the *Advertiser*, have had a variable, but in the main encouraging experience in the construction of fishways. When they began the work at Lowell, some of the factory superintendents looked on with a quizzical air, and suggested that the fish must have a schoolmaster to teach them to go up the steps. But the shad and salmon which had been waiting for the chance since 1849 knew better, and schools of them found their way into the upper waters without a master. But it is to the cultivation of food fishes, which long-continued improvidence has driven from our waters and made a costly luxury in our markets, that attention has been mainly devoted. Individual curiosity and enterprise had already prepared the way. Methods which, under the auspices of the French government, have made waste and barren waters more productive than the same area of arable land, have been tried with remarkable results. And though the prolonged hot weather last July made temporary havoc with Seth Green's spawning-fields at Holyoke, there is no reason to doubt that the means which have been successfully tested elsewhere may also be used to stock our waters with the life that is suited to them—"the carp, perch and pike, for sluggish streams, lakes and ponds; trout for the bounding brook, and salmon for the clear, swift river."

For the New England Farmer.

HEN MANURE.—SUPERPHOSPHATE.

I see an inquiry in last week's FARMER by William Allen of North Holland, Vt., in regard to mixing hen manure and ashes. I have been engaged in making comparative experiments with commercial and other fertilizers for the last two years. Perhaps the results may be interesting to Mr. Allen and other readers of the FARMER.

and I advanced the same theory you advance in your remarks, but the experiment tells me that theory and practice do not always agree.

I also used Cumberland, Alta Vela, Bradley's, Rhode's, Glasgow, E. F. Coe's, and A. Coe's superphosphates at the rate of 14 pounds to 140 hills. The increase was from 50 to 80 per cent.—each kind paying for itself at least twice, and some three times.

I can raise more corn from one dollar's worth of good superphosphate than from the best half cord of barnyard manure I ever saw. I would also say to Mr. Grow that I shall plant four acres of corn this season and use nothing but "special fertilizers" in the hill, and shall expect to get from 45 to 50 bushels good sound corn to the acre.

The ground on which I tried the experiment was an old bound out field which I lately purchased, and has not had 15 loads of manure for the last 30 years. The end of it on which I tried these experiments, gave on an average 46 bushels to the acre. The other end was manured with sheep manure at the rate of 12 cords per acre, with night soil compost in the hill. This proved no better, although any one seeing the corn before it was harvested would have said that it was a third better.

The phosphated end required but two cultivatings and one hoeing. The manured end required two cultivatings and two hoeings. Manure will make weeds grow as well as corn.

Now I don't wish to be understood that I ignore the use of barnyard manure; on the contrary I contrive every way to make and save all I can. My cattle are stabled every night through the year, and well bedded with any thing I can obtain, such as leaves, loam, dried muck, &c. It matters little what it is; anything to absorb the liquid.

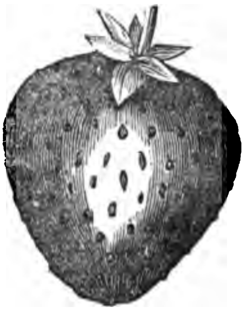
After my corn is off next fall, I shall cart on the manure at the rate of 8 or 10 cords to the acre and plow it in; the next spring, cultivate and sow with wheat, seeding to timothy and clover. By this method I get better wheat and better grass, and the land will hold out longer, than by the old method of applying the manure to the corn crop and then seeding down with wheat. Still this course is well enough, if farmers will manure liberally enough, but this is not apt to be the case among many farmers. The quantity of the manure is so small, or the quality so poor, that the corn gets it all, and there is nothing left for the wheat, and it proves a failure. Whereas, if the corn had been raised with some special fertilizer, and the same amount of manure had been applied to the wheat, a paying crop would have been the result, and the hay crop would be double.

By adopting some such course as this, many of the worn out farms might be brought to a high state of cultivation in a short time. The wheat crop in New Hampshire can be doubled in three years, and there is no reason why a larger portion of New Hampshire farmers should not raise their own wheat. and at a handsome profit. S. C. PATTEE.

Warner, N. H., March, 1869.

For the New England Farmer.

CULTIVATION OF THE STRAWBERRY.



Thinking that some readers of the FARMER, like myself, may be interested in small fruit culture, I venture to give my experience, more particularly with the strawberry. I have been engaged in the small fruit culture twelve years, and claim that in New England the business is yet in its infancy, when compared with New York, New Jersey or Pennsylvania.

It is not my design to enter upon a treatise on varieties, or their adaptation to particular soils, but will confine myself to those kinds which have best succeeded with me. I prefer the following method of cultivation. Plant three rows two feet apart, with the vines at the same distance from each other in the row, then leave a space of five feet, and so on, leaving a space of five feet between each three rows. On this plan the cultivator can be used, saving much labor. It also leaves a space for the pickers. After picking, apply a dressing to the paths, cultivate it in, and they will soon be covered with vines. Then break up two feet in width of the middle of your three rows for the pickers next season. By this mode of culture runners will need but little cutting. For this style of culture I should select Downer's, Wilson's, Large Early Scarlet, and Agriculturist.

For high, warm soils, and for what is usually called hill culture, the plants are set one foot apart in the row, and the rows at such distance that the cultivator can be run between them. Plants are not allowed between the rows. If a few of the best plants are saved between the hills for fruiting, it soon becomes row culture For this mode of culture I should select Agriculturist, Wilson's, Cutter's Seedling and Russell's for high ground; Triomphe de Gand and Jucunda for lower land.

Select a piece of land which has been planted the year previous. After ploughing, give it a good dressing of stable manure—or muck that you are sure is good will do,—and cultivate it in. Stable manure for this purpose should be well decomposed, as no raw material directly applied to your strawberries will pay for itself except as a top dressing in the fall or winter. It is often remarked the more manure the more fruit; but in some cases I find the more manure the more vines. I have grown 750 boxes from half an acre of Downer's Prolific and Early Scarlet without any stable manure being applied for eight years. I used mud, or rather rich vegetable matter, taken from pond holes surrounded by cultivated land. This is equal to about forty-five bushels per acre. I do not make this statement thinking it a great yield, but as a matter of interest to some who may not have plenty of stable manure.

I am often asked the question whether our markets will not soon be glutted with strawberries. Of course I cannot answer positively, but think those who raise varieties which our New England markets demand, and put them up in a proper manner, are in little danger of a glut at an early day.

I do not know that I ever had a good crop without winter protection, and never expect to, unless the ground should be covered with snow. Stable manure is the best covering; rye or wheat straw, hay and oak leaves are good for low ground. Pine needles will answer; a thin covering only is required. The mulch should be removed early in the spring, as it will have a tendency to heat the plants.

I noticed in the FARMER of February 13, an essay by Fred. G. Pratt, in which he says that strawberries grown in the hot lands of New Jersey are inferior as to quality, to those grown in the cool climate of New England. I fully agree with this statement, and should judge the piece was written by a practical fruit grower. I intend planting two acres of Downer's, Wilson and Early Scarlet, and the same of Wilson's blackberry, thus showing my faith by works.

Room will not allow me at present to make any remarks on blackberry and raspberry culture, but I would like to hear the experience of some practical grower. E. W. SHAW.

Carver, Mass., March, 1869.

For the New England Farmer.

CO-OPERATIVE FARMING.

The past season has been an unfavorable one to commence this novel and important enterprise. Late planting, short summer and early frosts, together with hard soil, scarcity of labor and team work, are conditions not favorable to a very flattering report of the first season's operations of the North Easton Planting Company. Nevertheless we will endavor to give the facts regardless of consequences.

The Original Plan

Was simply this:—A certain patch or field was hired for a year. An estimate was made of the cost of cultivating a crop upon it, whether of corn, vegetables or other productions. If the cost was estimated, say, at fifty dollars, we then issued fifty tickets, and sold the same to A, B, C, &c., at one dollar each, with the promise to deliver at harvest, one-fiftieth part of the crop to each ticket holder. But if the cultivation and other expenses exceeded fifty dollars, then part of the crop must be sold, or more tickets issued to pay the excess.

The Object

Was to induce persons of small incomes to save up and invest a part of their earnings from time to time in sums so small that they would scarcely miss the money, while at the same time they would be paying in advance for a portion of their family supplies.

The Little we Did.

We planted only six acres of ground the past season, three to potatoes, one to corn, the remainder to beans, squashes, cabbage and turnips. We hired the land, labor, and team work, bought the manure and seed,—all of which was procured with difficulty and at large prices.

Results.

The outlays upon our potato patches amounted to two hundred and seventy-eight dollars. The cash value of the crop, at retail prices, amounted to two hundred and eighty-three dollars; giving us five dollars profit.

The expenditures upon our corn patch amounted to seventy-eight dollars. The cash value of the crop was only fifty-eight dollars, leaving us minus twenty dollars; returning only seventy-four cents on a dollar share. This may have a hard look for co-operative farming, but we do not consider it by any means as decisive. Through many mistakes and some unavoidable casualties, we obtained only about half the crop that usually grows upon similar patches of ground.

Upon our bean field we expended fifty dollars. The value of the crop was fifty-five dollars; giving us five dollars profit.

The outlay upon our cabbage and turnip patches amounted to fifty dollars. The value of the crop was fifty-seven dollars; leaving seven dollars as profit.

Upon the whole operation we have lost three dollars;—amounting to one and one-half cents per share and the interest for a few months upon the investment.

Will this Method of Farming Pay?

Yes, we believe it will, under judicious management. Our expenses were too large by one-quarter. By hiring our ground for only one season our loss may be estimated at five dollars per acre, and it is believed that at least ten per cent. on the sum expended should be allowed for the unfavorable character of the past season for maturing crops. With these allowances can we do any better with our money than to employ it in farming?

Suggestions for Future Operations.

Let a few honest persons in each township organize a planting company, and instead of hiring ground and planting as we have done in this first attempt, contract with the farmers round about to plant, sow, and carry through any crops desired by the organization. All to be well cared for, harvested and delivered to the ticket holders, who reside within certain distance from the plantation. Let the organization pay these farmers, or contractors, one-third at planting, one-third at hoeing, and the other third at harvesting. This plan will give new life to New England farming. It will simply be subscribing and paying in advance for our food, the same as we do for our newspapers, and running the risk of getting our money's worth.

L. Smith, Manager.

North Easton, Mass., 1869.

Remarks.—Having been made a share-holder in this company as a compliment for a notice last spring of the project of our North Easton planting friends, and having duly received our share of the proceeds in cash, we have a personal interest in this planting company. We regard the result of this first experiment in co-operative farming as more successful than could have been expected, and creditable to that portion of old Massachusetts soil on which it was tried. Few farmers will lease their best fields, or those which were well manured the previous season. The company had to take such as they could get. The manure applied to cultivated crops is only partially expended the first year in the production of those crops. Labor and team work was probably paid for at the highest prices. And yet the crops from these six acres fell only three dollars short of the expenditures. We suppose the ticket holders were mostly mechanics and manufacturers. Now, if they could have done most of this labor "out of hours" themselves, and especially if they could have done it on their own land, they might have greatly reduced expenses, promoted their own health, and perhaps escaped some of those "evil communications" and costly habits which sometimes result from a different employment of their leisure hours.

For the New England Farmer.

FIRE-PROOF STABLES.

Is it not a wonder that among all the improvements in farm buildings with which our agricultural papers are filled, that we have no plan for building barns in such a manner as to prevent the repetition of such fires as that which, at Burlington Vt., a few days since, burned one hundred and forty-five animals? I think a barn might be built without being excessively expensive that would give time to remove the stock, even if it might not burn down without injuring them. Instead of the ordinary cellar, let the four walls be of stone, the front one having two arches for entrances. Put a cheap, but substantial floor over the cellar about six or eight inches below the top of the side walls. Let this floor be supported by brick or stone pillars, with as little wood work as possible below the floor. Level up from the floor to the top of the wall with dirt, stone, &c., finishing with gravel, and grout with cement. Leave sufficient openings to put down food to stock, but protect them with metallic trap-doors. Build the barn on this foundation, and in case it took fire it would be a long time in heating through the cement and dirt to the wood floor. It is doubtful if it ever got hot enough to burn, as heat does not readily descend. As the points of egress would be some feet lower than the fire there would be a strong draft of cool air that would render it possible to remove the stock after the heat and smoke had made it impossible to approach the fire on a level with it. The walls of the cellar should contain windows sufficient for the admission of light, and ventilation. Judging by the expense of grouting cellars, I think that part would be cheaper than a good plank floor, so that the principal extra expense would be the under floor, and this would be in part made up by the extra value of the hay lying next the floor, for it is a well known fact that the hay lying on a common floor over a stable is nearly or quite spoiled by the absorption of noxious gases. I do not present this as the only or best plan, but as *one* plan, and hope others will reflect upon its necessity and improve upon it, until we shall see all good barns built with reference to preserving stock from a cruel death in case of fire, and the owners from consequent loss. Yours, &c.

R. S. Hinman.

River Side, Conn., March 15, 1869.

For the New England Farmer.

DEGENERACY OF THE OAT CROP.

What are we to do about raising oats? It has now been several years since a good crop of this grain has been raised in our locality, and I judge from accounts published that this complaint is quite universal throughout the Eastern States. And when we strive to ascertain the cause or its remedy we have nothing to guide us but the merest speculation. Many, however, think it owing to climatic influence, others to the soil. For one I hardly look upon it as caused wholly by poor soils, as we often succeed in getting a fair growth of straw without a corresponding yield of grain.

It would seem to be good policy as long as it continues to be so uncertain a crop, to substitute in a degree some other grain. Barley, either mixed with oats or alone, is being grown to some extent with us for this purpose.

The objections to mixing these two grains, are that ordinarily the barley ripens a few days earlier than the oats, and also being a hard shell grain should be ground previous to feeding. This last however, is not so much an objection, as teamsters are rapidly getting in the way of feeding only ground feed to their teams, which, no doubt, is to be preferred in an economical point of view, as it seems a well proved axiom, that unground grain should be rarely fed except to young horses.

Indeed nine tenths of all team horses are probably fed on ground grain, of which corn forms the larger part; railroad and canal horses being fed in this way.

In connection with this subject, I would like to propound the inquiry, whether agriculture is ever to be properly reduced to a science; or, in other words, am I ever to know with any degree of certainty just what properties a certain field lacks in order to produce a good crop of oats,—for we all know that it is not always *manure* that it needs. For instance, a field gives a good strong straw, but is very light in the head. Is agricultural chemistry going to give us this information?

I propounded this query to a noted agricultural writer (Mr. Greeley,) a short time since, and he replied that in his opinion it never would be reduced to a science in the sense that mathematics are, but thought we were slowly nearing that period. The analyzation of soils seems not to answer us here; indeed, I think I am safe in making the statement that not as much reliance is placed on its benefit as there was a few years since.

For the present, then, it would seem our chief dependence must be on careful and repeated experiment. The writer has a portion of alluvial soil which grows the largest of corn stalks, but will not give near the yield of corn as another portion of the farm of lighter soil which gives much smaller stalks. The inference of course is, that one field lacks the necessary ingredients in the soil to give the growth of the grain, while the other possesses it naturally. Now if I knew just what *was* lacking in the one field, what would hinder me from applying it artificially, and thus insure a good crop of corn. And then again in the growth of grass. We say a certain field is *natural* to grass. True, but why is it? Evidently just because the soil contains the proper ingredients to perfect its growth. And so again, if I knew just what went to make up a good grass soil, might I not by a proper application of the necessary parts, convert a comparatively barren field to good mowing or pasturage. It will not quite do to reply to these theories by saying manure answereth all things in farming, though this is nearer the truth perhaps in relation to the growth of grass than almost any other farm crop. It will not always give us a good yield of the cereals; some other conditions of the soil are absolutely necessary, and what these requirements are is what we are groping for now in the dark.

W. J. PETTEE.

Salisbury, Conn., March, 1869.

REMARKS.—Dissatisfied with the results of the analyzation of soils and manures by the crucible and acids of the chemist, a French Professor, M. George Ville, has resorted to plant growth as a more philosophical process, with results that have attracted considerable attention in the agricultural world. Dr. Nichols of our own country has also adopted a similar process, with most encouraging success, on his farm in Haverhill, Mass. And it is possible that when farmers learn the lesson taught by Æsop's fable of the reapers, they will rely more on their own "experiments" and less on the "science" of the closeted chemist.

SOAP SUDS.

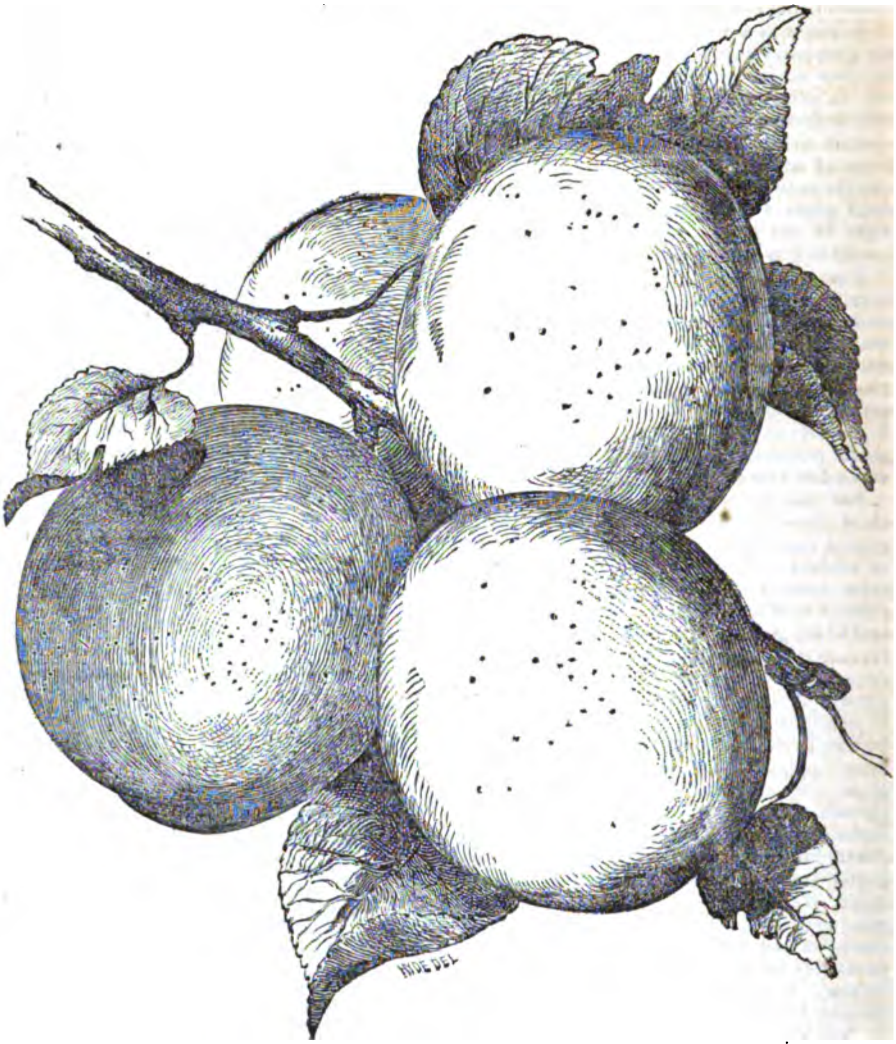
A cistern or tank, of the capacity of from two to four hogsheads, should be constructed in the vicinity of the sink or laundry of every farm house, and a system of conductors so arranged as to lead the suds and slops into it as they are made.

This liquid matter is a powerful fertilizer, containing the food of plants in a state of solution, and consequently in a condition to be readily taken up and absorbed by vegetables as soon as applied.

Irrigating gardens with soapsuds, after the liquid has become stale, is a powerful means of promoting vegetable growth, especially in dry weather. Some have considered the value of suds to be equal to that of the same weight of manure; this, however, is probably an exaggerated estimate; yet we want no additional corroboration to satisfy us of its intrinsic worth, as a vegetable stimulant.

Great care should be observed that the decaying matter and suds do not taint the air about the dwelling, as in the process of fermentation and decomposition sulphuretted hydrogen gas is thrown off. This is an active poison. When inhaled it acts directly upon the blood, thickening it and turning it black. A single gallon of it, mixed with 1200 of air, will render it poisonous to birds, and one gallon in 100 will kill a dog. Many of our people are not sufficiently careful about allowing such "sinks of iniquity" to exist about their dwellings.

—Maple sap weighs eight pounds to the gallon, thin syrup ten, and thick syrup, that grains at the bottom, eleven. Trees on rocky hill-sides yield the sweetest sap. Whiteness of color and a rich maple flavor depend on boiling the sap soon after it flows, and keeping things neat as wax. The sooner sap is boiled the less scum it shows. The value of maple syrup depends not on the saccharine matter, but on the maple flavoring. The cans or jars containing the syrup should be sealed airtight



THE APRICOT.

It is remarkable, says Mr. Thomas, in his excellent work on fruit culture, that a fruit of such excellence as the Apricot, and ripening from one to two months before the best early peaches, should be so little known. In its natural character, it is more nearly allied to the plum than the peach, resembling the former in its broad leaf, and in the smooth stone of its fruit; but downy, like the peach, and partaking largely of its flavor and excellence. It is budded on seedling apricots, and on peach and plum stocks. The trees have generally been planted in the warmest situations, such as the east or south side of buildings, facing the hot sun, where they have blossomed early, and been liable to be destroyed by spring frosts. If trained on a building, such an exposure should be especially avoided; a northern or western aspect is far preferable.

The above engraving was made from a cluster of the most beautiful apricots we ever saw, that were left at our office by Mr. J. Q. A. Wild, of Quincy, Mass. The tree on which they grew was trained on a trellis on the west side of the house, and sheltered from the northwest winds, and on cold frosty nights in the spring was covered with a sheet. The soil and cultivation in this case was not different from those necessary for the growth of the pear, peach and other trees. The soil should be deep and dry, without a wet subsoil.

We give the illustration, and the brief suggestions above, without expecting that our friends will go into a general cultivation of this fruit. But as it is not only a delicious fruit, as well as an ornamental tree, especially when in bloom, those having suitable situations and desiring variety in the embellishments about the house, will be glad to see the apricot figured, and know something of the habits and method of cultivating the tree. The fruit, to our taste, is not so juicy and rich as that of a good peach, but a well formed tree in the free air, or judiciously trained, is one of the most beautiful objects to be found in our gardens.

IMPROVEMENT OF LAND BY SHEEP.

Mr. H. G. Abbott, of North Vassalboro, Me., concludes a communication in the *Maine Farmer* on sheep raising with the following statement, which was made in corroboration of his opinion that there is as good encouragement for farmers to increase their flocks of sheep as any other kind of farm stock; and that if farmers would keep their sheep on their tillage land they would improve it to almost the amount of the expense of keeping the sheep the year round.

I made an experiment in this direction four years since, that satisfied me on this point. I will state the same, hoping it may be the means of inducing some to try it also.

I had a grass field of about thirty acres, smooth and free from stumps and stones, sloping gently to the west, and of clay loam soil. One end of the field was so completely run out, that nothing but white and yellow-weed was to be seen on the field. Not having barn manure sufficient to dress what I had up and this field in addition, I concluded to turn out ten acres of the poor end to pasture and after pasturing it two or three years to take it up and dress it and put it into grass. Accordingly I run a cheap board fence across the field inclosing ten acres, and put on to the piece fifty sheep, without lambs, and kept them there two seasons. They fed it close to the ground, not allowing a blade of anything to get over an inch high.

In the spring of the second season I perceived a greenness on the field, looking different from what it had for a few years past, and was led to examine the same, and, to my surprise, I found that there was a sprinkling of grass coming up over the field. I put fifty sheep on the second year, and noticed through the season, that the sprinkling of grass increased; so much so, that I called the attention of one of my neighbors to the fact. His reply was that he had been noticing it for some time.

The next spring, at the usual time of turning out sheep to grass this piece looked so well, that I concluded to let it come up and mow it. Accordingly I took up the fence, and when I came to put on my mowing machine and hand scythes, to the surprise of myself and my men, I had the heaviest piece of grass on my farm—estimated by good judges who helped cut it, to be two tons to the acre, and some parts two and one-half tons, and of the very best quality, with hardly a stalk of white-weed or yellow-weed to be seen. I cut the same piece last season, with about the same results.

I will state that I put upon the field about two bushels of plaster to the acre and a very small amount of grass seed. I also went over the whole thirty acres in the same field, but found no such results. I could see from the road all the season, to an inch, where the fence was taken up. I will not undertake here to go into the figures showing the advantage of this manner of treatment for worn out land, but I do believe that I cut as much hay the two years past from the piece of ground from the effect of sheep running on it, as I should from a dressing of yard manure—and the expense of plowing and fitting, and the application of the manure must have been quite an item—whereas the dressing from the sheep and the application of the same did not cost anything; for sheep are generally pastured on land that we cannot cultivate.

One suggestion, more, and that is the importance of going over our grass fields in the spring of the year and scattering on a sprinkling of grass seed. Nothing of such light expense pays so well.

QUEER HOG FATTENER.—A singular discovery has just been made at Cincinnati. It seems that a man upset his kerosene lantern into his meal bin, and he noticed afterward that his hogs ate the damaged fodder with avidity. This gave him an idea, and by experiment he found that five week's feeding with kerosene mixture made one of his hogs so fat that it could scarcely stand. The animal was then tried into lard with the following result: When cool the lard did not congeal, but the addition of a certain amount of potash resolved the contents of the kettle into three distinct substances—the first, a light, transparent oil, better than kerosene or sperm oil; the second, a jelly-like substance which turned to soap; and last, a small residuum of insoluble muscle.

EXTRACTS AND REPLIES.

SALT FOR WHEAT—BEANS—PUMPKINS—ROOTS.

Will some of the many readers of the NEW ENGLAND FARMER inform me if common, coarse salt is beneficial to a wheat crop; if so, how much should be applied to the acre? When and how applied? Also is it profitable to plant beans among corn? Should they be planted in the hills or between them? Are pumpkins profitable to plant with corn? Which is the most profitable crop, under the same circumstances, for feeding stock,—turnips, beets or potatoes?

Brother farmers, and Mr. Editor, please give us more "Extracts and Replies;" they are just what we want for information. Let them be brief and to the point; and relate to all the different modes of stock raising, applying manures, the cultivation and harvesting of crops, and all that pertains to farming, together with the results of all experiments, whether successes or failures. NATT.

Danville, Vt., March 16, 1869.

REMARKS. — The results of experiments that have been made in the use of salt for manurial purposes have been so diverse that we suppose there is no settled opinion as to its value. Its use for this purpose seems to have been known in Bible times, and reports of experiments with it are found in our oldest agricultural works, and yet it is but little employed by our best practical farmers. It is also recommended for its destructive effects on thistles and other weeds. As a stimulant it must be classed with special manures, and its beneficial effect depends on special circumstances, which are not well understood. Perhaps this is one of the agricultural riddles which our farmers' colleges are to solve. A correspondent of the *Germantown Telegraph* divided an acre of clover land into strips of thirty feet wide. To the first strip he applied plaster broadcast, at the rate of two bushels, at a cost of $1 per acre,—to the second strip, ground salt, at the rate of two bushels, or $2.50 per acre; to the third strip, a mixture of salt and plaster, one bushel each, costing $1.75 per acre; and so on throughout the field. The growth on each third strip with salt and plasture mixture was decidedly the best throughout the season; the second, with salt alone, was next; and the first, with plaster alone, was the poorest. These strips were sown at different times, extending over two and a half weeks, to ascertain the best season for application. Plaster did best when sown when the clover was two or three inches high, and when the leaves were wet with dew; the salt did best when sown just before a warm rain. The beneficial effects of the salt and lime mixture, he accounts for by assuming that it contains sulphuric acid, lime, chloride, and soda,—four ingredients most needed by clover.

But our correspondent's inquiry relates to the effect of salt on a wheat crop. In his *American Wheat Culturist*, Mr. Tood says, his own experience is not in favor of the application of salt to growing wheat, or to the soil where wheat is to be sown. Still he has reason to believe that on *some soils* a dressing of salt has been and may be again of great value to the growing crop. He advises each farmer to make experiments on his own fields, and if the straw or grain is better on the salted strips than elsewhere, then he may conclude that salt is beneficial to his land. Mr. Mechi mentions a field in England on which the wheat would lodge unless salt was applied. One farmer there salted his manure.

Mr. John Johnston, the model New York farmer, has received great benefit from the salt on his wheat fields. His land is a rich heavy soil, on the borders of one of the inland lakes of that State, and may have been once covered by water. Some years ago he made the following characteristic statement in the *Genesee Farmer*:—

"I did last year what I never did before; that was ploughing up wheat stubble and sowing again with wheat. It is a respectable looking crop now, but if you saw the half of the field that I sowed salt on, say a full barrel to the acre, I am almost sure you would order forty or fifty barrels of second quality salt to sow in September or October. The salted wheat stands much thicker on the ground, is considerably taller, came in ear fully four days before the other, and altogether looks richer in every way; and as I had not salt enough to sow the whole field, I sowed the half that has hitherto brought the worst crop and latest in ripening. Now it is much the best. I can stand in the middle of the field and look forty-five rods each way and see distinctly how far the salt came, or I can walk or ride down the side of the field where not salted, and see the line as plainly as if the one side was corn and the other wheat. If this won't make men experiment with salt, I don't know what will."

Farmers in the neighborhood of the salt works in New York, where refuse salt can be had very cheap, have tried it pretty extensively, and their conclusions as to its value, though not uniform, has not been such as to encourage its general use. But Mr. Geddes says in a late article on the subject in the *Tribune*, that certain things have been learned, one of which is that a new beginner is very apt to put on so much as to destroy or greatly injure his crops. Indeed, it is well understood, that salt in large quantities entirely destroys the fertility of a soil. It is also known that in small quantities on some soils an application of salt is beneficial. In the present state of our knowledge we know no better way of deciding its effects on a given field or crop, than by an experiment on a small scale.

The other questions of our correspondent must be handed over to "the many readers of the FARMER" whose pens are lying idle for want of a subject to write upon.

LYNDON, VT.

Lyndon, as a township, is six miles square, and is nearly equally divided east and west by the Passumpsic river. Along the valley of this river, as well as on the hills to the right and left of it, are some of the best farming lands and farms in this section of the State; and the thrift and prosperity of her farmers speak well for their intelligence and enterprise. Lyndon has produced some fine horses for the city markets, and her cattle and sheep have won a name not only in the county and State, but throughout New England. The Lyndon farmers, as a class, devote especial attention to the production of beef, and to do this not only raise large quantities of grain, which they feed out on their farms, but many of the largest farmers make a practice of purchasing more or less Western corn for feeding purposes. By this means they not only have extra beef for the market, which is a source of profitable income, but it keeps their farms in good condition; if anything improving in productiveness and value from year to year.

As a sample of the beef produced in town, the following, marketed within the past two or three weeks, may be worthy of mention: Amasa Bemis & Sons, a pair of Durham oxen, weighing 4150 pounds. This pair received the first premium at the Caledonia County Fair last fall. Another pair, three years old, owned by the same, which weighed 3370 pounds. John Howland & Sons, marketed a pair the same week weighing 3950 pounds. The week following, Chas. Sanborn sent a pair to market which weighed at home 4230 pounds. One of the pair was considered one of the best and fattest oxen—it was not the largest or heaviest—that has been fattened in town for some time; its live weight was 2300 pounds. Henry Chase sends a pair this week weighing about 4000 pounds. A. O. Harris has a pair of white Durham oxen which weigh 4600 pounds, and are still growing and fattening well. He wants to see them weigh 2½ tons. More anon.

I. W. Sanborn.

Lyndon, Vt., March 23, 1869.

CRACKING UP NEW THINGS.

Why do the Farmer and other papers crack up the new kinds of potatoes, oats, &c., which by the time enough of them are raised to come into general use, turn out to be very inferior as to quality? The "Early Goodrich," a year or two ago were praised to the top notch in the Farmer, now they are so poor that there is no sale at all for them except as feed for stock—no better than the "Californias," or the Rohans of old. In a year or two the Early Rose, and No. 4 potatoes, and the Norway oats will turn out, no doubt, in the same way.

Barre, Vt., March 14, 1869. A. J. Smith.

Remarks.—As we try to be very cautious about cracking up new things, we hardly know what to say to our correspondent, unless it is to throw ourselves on his mercy, with the remark that we find it a hard matter to conduct a paper in such a way as to suit every body. Cowper called a newspaper "the herald of a *noisy* world" in his day, and if he had lived till now we do not think he would wish to soften down the expression. The world is as noisy as ever. Inventors, discoverers, experimenters, and advertisers, all of whom are admitted to our columns, crack up their favorite hobbies, and the poor editors are held responsible for all the noise they make. Would Mr. Smith exclude them entirely? Would he shut out everything "new" from his columns, were he in our place, simply because it is new, or because he was not certain it would prove a good thing? How long is it since the Jackson White was a new potato? the Baldwin, a new apple? the Morgan, a new horse? the Merinos and Cotswolds, new sheep? the mowing machine, a new implement on our farms? the railroad a new thing in the whole world? The papers that "cracked up" these new things will not now be condemned. Farmer Burns once asked for the gift "to see ourselves as others see us;" but editors need a gift or faculty to see new things as they will be seen after they have been thoroughly tested and tried under all the varying circumstances of thousands of experimenters. If Mr. Smith can tell us how to acquire this faculty, we promise never again to crack up a worthless potato, a poor implement, or an inferior race of animals.

SUMMERING MANURE.

I wish to inquire through the columns of your valuable paper, if manure made through the winter will depreciate in quantity and quality by laying in the cellar until fall, if hogs are kept on it, and the cattle are stabled nights through the summer? And if such manure will last as long if applied to land in the fall and planted next season, as green manure applied in spring?

Subscriber.

New Hampton, N. H., Feb. 24, 1869.

Remarks.—If properly covered, as all manure should be, with muck or loam, the manure in a *cool cellar* will not deteriorate in quality. If it undergoes fermentation it will decrease in *bulk* somewhat. But if hogs are kept upon it it will not be likely to do so. If it becomes finer by keeping, it will be more readily taken up by growing plants, and may not last so long as green manure; but the more the manure is taken up, the *larger the crop will be.* So nothing is lost in that direction. We are inclined to think that it would always be best to apply all the summer made manure in the fall, and plough it under. That is our practice as far as we are able to do it.

SEASON IN ORLEANS COUNTY, VT.—CROPS ON THE FARM OF J. H.

We are having a long winter. We commenced feeding at the barn a month earlier than usual. The ground has not been seen since our first snow storm. We have had but very little extremely cold weather, and scarcely any rain; our storms having all been snow, which will now average four feet deep. There is but very little frost in the ground. Grass roots have had a good protection unless the mice have worked them. We have, as yet, seen no signs of spring; no robins or other spring birds.

My cows, ten in number, have averaged the year past, $62.50 per head, beside what we have used in a family of nine persons. Four acres in corn have produced four hundred and twenty bushels of ears, on sod ground broken in spring, with light coat of green manure, applied before ploughing. A compost of old manure and muck, which was drawn directly from the swamp to the field the fall before it was used, an ordinary shovelful to the hill. It was more than three-fourths muck. One acre of potatoes, Jackson Whites, 250 bushels. One acre and one hundred and twelve rods of wheat produced forty-five bushels. Soil a mixture of granite and lime with some slate stone. I plough from eight to twelve inches deep. We have raised some over $100 worth of poultry.

I had a two year old heifer which came in May 23, 1868, which gave twenty quarts of milk per day and made one and a half pounds of butter per day, June 17th. I sold her for $100. J. H.

Remarks.—A very concise statement of good farming. Forty-five bushels of wheat on less than one and three-fourths of an acre; over fifty bushels of corn, and 250 of Jackson White potatoes to the acre, with an income of $62.50 per cow on a dairy of ten cows, besides supplying a family of nine persons, are results so creditable to your soil and your management, that we think our readers will regret that you did not take a little more space for particulars, and that you do not authorize us to give your name in full. Don't be too modest.

MAKING MAPLE SUGAR.

In this section we usually tap our trees about the 20th of March. The ¾ bit is in general use. The Franklin spout, with hook for bucket, is considerably used and is liked well. Tin buckets are preferred, costing about thirty dollars a hundred, and will last a life time if well taken care of. For boiling, galvanized sheet iron pans, four feet long, two wide and six inches deep, are the best, as they will not stain the syrup; one being set six inches higher than the other; the tank for the sap is still higher; then we have a tin pipe, with faucet attached, leading from the tank to the pan. Two such pans will boil the sap of one hundred and fifty trees. We calculate on a gallon of molasses from a barrel of sap. We boil it down to syrup in the woods, carry it to the house, strain it, and, after setting over night, put it on to boil, adding a half cup of milk to cleanse and to make it light colored. A good nice article is generally worth about $1.50 per gallon. Fairfield.

Fairfield, Me., March 20, 1869.

SUGARING.

I noticed in your issue of March 20, a few hints on sugar making, some of which coincide exactly with my own ideas of that truly *sweet* work; for you must know, that, though only a boy in years, I have had considerable experience in the bush. "A. C., Jr.," says he finds he gets as much sap by boring ¾ inch deep, as by boring 3 or 4 inches. Undoubtedly he does, while boring the latter depth is simply "tree slaughter," and ought to be an indictable offence. I prefer to bore with a ⅝ inch bit, and not less than ¾ nor more than 1 inch deep. I prefer tin buckets that will hold about twelve quarts each, as wooden buckets get slimy at the bottom and cause the sap to sour. Wooden spouts are in my opinion the best, as metal ones are apt to corrode, and then they are unfit for use. I like a wire hook from the back end of the spout to hang the bucket on, which avoids damage to the tree by driving spikes into it, and saves the chopper from uttering bad words on striking his new axe on an iron spike. The sap should be strained before boiling, and the syrup settled before sugaring off. Use a sheet iron pan, six inches deep, in sugaring off, and if you are very careful not to burn it, I'll guarantee sugar good enough for any body,—even for you, Mr. Editor. G. F.

Milton, Vt., March, 22, 1869.

EXPERIMENTAL PIGS.

I had two pigs killed yesterday which were ten months and four days old. The breed was claimed to be half Chester and half Essex by the man I bought them of. At six weeks old one weighed 14½ lbs. and the other 16½ lbs.; and I paid $10 for the pair. The entire cost, including first price, milk, meal, killing, dressing and cutting up,—everything but *dish water*—has been $68.65. The one that was the smaller to begin with, weighed to-day alive, 449 lbs. and dressed 383 lbs., and the other alive 386 lbs. and dressed 330 lbs., making for the pair 713 lbs.; worth at 16c per lb. $114.08, giving me a net profit of $45.43. I have allowed nothing for taking care of the pigs supposing that the manure would pay for that. Nor have I reckoned the intestine fat.

I raised these pigs as an experiment, to see if I could make anything out of the operation. Have I done as well or better than is usually done?

Chas. O. Bachelor.

Northbridge Centre, Mass., March, 10, 1869.

CASTRATING COLTS.

I wish to learn what is the best *age* and *season* of the year to have this disagreeable job performed?

Does the deferring it for six or twelve months, or longer, affect the *form* of the colt? I have an impression that such delay tends to develop the *fore* quarters of any male more than the hind quarters. Consequently, if an animal is too light *forward*, in proportion to his hind quarters, he ought to remain entire till the deficiency is corrected; but if too thick and heavy forward already, castration should take place at the earliest practical time.

It has been customary hereabouts for years past to have colts castrated when yearlings, with few exceptions. I hope these inquiries will be answered *soon*, as I have a case in point, a black colt, sired by "Smith Morrill," (a square built, heavy-limbed bay, 1300 pounds, "2 43" horse,) which is a very well built, high life trotter, with head and tail in the best possible position, and all right except a little lack of depth of neck where it joins his shoulders, perhaps some would say "he is too low on the withers." His breast is full and wide, and his legs are very wide and muscular, especially his forward ones at their junction with the body.

He is large, thrifty, and has been growing fast ever since weaning time; weighed 531 pounds the day he was six months old, and now at just nine months old stands 58 inches, or 14½ hands high forward, and 59 inches at the rump. My query is, will delaying castration for six months or longer have a tendency to improve his form in the defective place specified? Will a change of diet, or any particular food or treatment have such a tendency? His feed since weaning has been hay, one quart cut roots, one pint each of oats and shorts at night, in the stable, tied after watering; the same at six o'clock in the morning; at half-past eight A. M., watered and left in the yard till hitched in stable and fed hay alone at noon.

Randolph, Vt., March 13, 1869. R. N.

Remarks.—The views of our correspondent are confirmed by *Stonehenge on the Horse*, an English work recently published by Porter & Coates, of Philadelphia, and edited by Dr. R. McClure of that city. Ordinarily the best time for the operation is said to be just before weaning, if the weather is mild. If, however, the conditions spoken of by our correspondent exist, its postponement to the following spring is advised. The cold of winter and the heat of summer are both to be avoided. April, May, September and October are suitable months.

FOWLS.

I would like to say a few words in regard to the Black Poland fowls. I prize them very highly, and can recommend them to farmers as being good layers; hardly ever wanting to sit. They are peaceable about the yards, and I consider them among the best fowls I have ever owned.

A Young Subscriber.

Dover, N. H., Feb. 18, 1869.

Ladies' Department.

THE THREE LITTLE CHAIRS.

They sat alone by the bright wood fire,
The gray-haired dame and the aged sire,
  Dreaming of days gone by;
The tear-drops fell on each wrinkled cheek,
They both had thoughts that they could not speak,
  As each heart uttered a sigh.

For their sad and tearful eyes descried
Three little chairs placed side by side,
  Against the sitting-room wall;
Old-fashioned enough as there they stood,
Their seats of flag and their frames of wood,
  With their backs so straight and tall.

Then the sire shook his silvery head,
And with trembling voice he gently said—
  "Mother, those empty chairs!
They bring us such sad, sad thoughts to-night,
We'll put them forever out of sight,
  In the small dark room, up stairs."

But she answered, "Father, no, not yet,
For I look at them and I forget
  That the children went away.
The boys come back, and our Mary, too,
With her apron on of checkered blue,
  And sit here every day.

Johnny still whittles a ship's tall masts,
And Willie his leaden bullets casts,
  While Mary her patchwork sews;
At evening time three childish prayers
Go up to God from those little chairs,
  So softly that no one knows.

Johnny comes back from the billow deep,
Willie wakes from the battle-field sleep,
  To say a good-night to me;
Mary's a wife and mother no more,
But a tired child whose play-time is o'er,
  And comes to rest on my knee.

So let them stand there, though empty now,
And every time when alone we bow
  At the Father's throne to pray,
We'll ask to meet the children above,
In our Saviour's home of rest and love,
  Where no child goeth away."

—*Mrs. H. T. Perry in Evangelist.*

DOMESTIC ECONOMY;

OR,

HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

CHAPTER XV.

FOOD AND ITS PREPARATION.

Time was when puddings were the first course at dinner. Now they are often crowded entirely from our bill of fare by the too plentiful consumption of animal food that precedes them. But we should probably gain much by a return to the old fashioned routine of dietetics. Our systems are burnt up, so to speak, by the excess of carbon which the immoderate use of animal food supplies; New Englanders, especially, suffer greatly from this cause.

In those days, too, puddings were of simpler style than these that now suit our pampered appetites. A few specimens of those primitive dishes are indeed occasionally suffered to grace the family board, but many persons, considering them mean and meagre, are so careless in their preparation that the once really nice and palatable food makes its appearance at table as a mess scarcely fit for the fare of brutes. Take for example mush, or hasty pudding,—(stirabout of the Scotch, furmity of the English) how often is it seen no better than the scalded meal of the stable and the barnyard, which one must be hungry indeed to eat. This is made, as we all know, of ground grain,—Indian-corn, rye, wheat, or oats—in the simplest manner, and the best to develope its nutritive qualities. Hence it is particularly desirable for the food of children and invalids. Perhaps some may consider directions for preparing this dish unnecessary; but I have seen so much waste and misuse of God's good gifts through heedlessness, or ignorance of little matters, that I cannot let even this A B C of cookery pass without the pointer at its individual proprieties. And as the worthiest of college students deem hasty pudding a dainty fit for festal cheer, and form clubs in its honor; and as one of New England's earliest bards has made hasty pudding the subject of an epic poem, and immortalized his name thereby, I believe most of my readers will acknowledge the importance of the following detailed directions:—In the first place, though it is called hasty pudding, it cannot be hurried; it must have a good deal of time and patience to make it what it ought to be. Use a deep kettle, iron or porcelain-lined. Fill this with water boiling hot. Sprinkle in as much salt as for making bread. Set it upon the hot stove or range, or hang it over a clear fire. Mix half the quantity of meal intended to be used with cold water, smoothly, and thin enough to stir easily with an iron or a wooden spoon. Make it of the consistency of soup by pouring upon it boiling water from the kettle, stirring it thoroughly the while. Then return it to the kettle. Stir it till it boils furiously. Then sprinkle in a small handful of meal (bolted meal or wheat flour if you wish for something a touch above common), and, while sprinkling, stir rapidly, from left to right, ("the way the sun goes," say the old folks); stir till the lumps are all gone; then let this boil three or four minutes. Then sprinkle and stir in another handful and wait for it to boil the same length of time, and so continue till the mixture is stiff enough to bear up the spoon. It must then remain, puffing and steaming, over the fire, ten minutes. At the end of that time take it into a deep dish and place it upon the table. Eat it with a little butter and molasses, or syrup, or sugar; or with plenty of milk and berries, peaches, or baked sweet apples or pears; or substitute a little cream and sugar for the milk with the fruit. Cold hasty pudding, cut in slices a quarter of an inch thick and fried in salt pork fat, or salted lard, just enough to keep it from adhering to the pan, is very nice if well browned on each side; sugar may be sifted between the slices as they are piled in the dish, or syrup applied at table.

Cracked corn, or hominy, should be soaked in cold water over night; then with twice its measure of cold water slightly salted set to boil over a moderate fire till nothing but the soft hominy remains. Grits—cracked wheat—need to be washed to remove the bran (unless the pudding is for dyspeptics). Boil them the same as hominy; and send both to the table with the same additions as hasty pudding.

Corn or potato starch, arrow-root, ground tapioca, farina, maizena, or even plain wheat flour, mixed as for hasty pudding, but needing only half the boiling, makes a more delicate dish,—to be eaten with sugar and cream, or a hot fruit sauce. Ground cocoanut is a great addition to these puddings. Soak it over night in water or milk that is to be boiled slowly half an hour before mixing with the other ingredients.

Among the simpler puddings we have also samp, the whole corn cleared of its hull—(the *enamel*, that coats the grain, we may call it). This is decidedly of American origin, the first white settlers borrowing of the neighborly Indians their receipt for making it. It is more convenient to make this in large quantities, and it will keep nice a week. Take the fairest kernels from the best-ripened corn-cobs. Wash four quarts and soak it in cold water over night. Have ready a bag—made by folding one width of thick crash about a foot long and stitching it with strong thread in short, close stitches down the side and across one end and then turning it inside out and stitching it again in the same manner. Fill this bag till within three inches of the top with hard-wood ashes. Wind around the open end a strong string, and tie it very tightly, so that no ashes can escape. Place this bag to soak with the corn. In the morning put both into a three gallon boiler, and pour upon them cold water till within two inches of the boiler's brim. Set this over a slow fire. Let it boil steadily, yet gently, till the hulls are loosened. Then take away the bag of ashes and skim the corn into dishes of cold water, in which rub and rinse it till the kernels are cleared from their hulls,—which can be skimmed from the surface of the water. Place in the bottom of the boiler a small plate or saucer—to prevent the softening corn from catching and burning there—and return the corn; cover it with the same quantity of cold water, and boil as before for three hours. Then skim it again into fresh water and rub and rinse it thoroughly. Once more return it to the boiler; if you choose add a tablespoonful of salt to the cold water (same quantity as before), and boil it till it is soft enough to eat. Set it upon the table with the same additions as for hasty pudding. Some persons remove the hulls by saleratus, soda, or potash, mixed with the water; but the original method—by weak lye—is preferable.

To make the Sunday Indian pudding of New England: scald half the milk that you wish to use and stir into it slowly Indian meal, till it is of the consistency of thick batter. Then add molasses to suit your taste; and salt and ginger. Butter a potter's pan and put in it half the unscalded milk, and then pour in the pudding; and stir into it the remainder of the milk—this is to make the whey, which serves as sauce. If you wish for a very rich pudding, add coarse chopped beef-suet and raw apples peeled and quartered, either sweet or sour—stir in just before placing it in the oven,—which must be of a moderate heat. Bake it slowly. Eggs may be added, and sugar used instead of molasses; but it is good enough without.

A boiled Indian pudding, made by scalding the meal as stiffly as it can be stirred, and then mixing with it an equal quantity of blueberries or huckleberries—fresh in the summer, the canned, or the dried berries, swollen, in the winter—and cooking it in a bag like that used for ashes in making samp, is a very good old-fashioned dish. So is an Indian suet pudding, made in the same way,—adding molasses to the taste, and beef-suet cut in small pieces, with a little salt. Boil this in a tin pudding-mould three hours. The berry pudding will cook in two hours, and needs a hot sweet sauce.

Rice, the whole grain, set upon the table with the same accompaniments as for hasty pudding is a very appetizing dish. Or it may be used as a substitute for potatoes with fresh meats. But it needs particular cooking. Overdone, watery, or clammy rice is miserable. It should be *steamed*. Pick it over carefully, removing all unhusked grains as well as all stones. Wash it well by rubbing it gently in cold water and rinsing it a second time; then salt it a little and put it into a deep dish that is set in the steamer in the top of the dinner boiler,—the boiler should be half full of boiling water. Keep it boiling till the rice is swollen to the appearance of parched corn, each kernel separate and dry. It takes a little more time to cook it in this way than to boil it, but it is always sure to be done nicely.

[TO BE CONTINUED.]

HOUSEHOLD ECONOMY.

CONTRIBUTED FOR THE NEW ENGLAND FARMER.

Pickled Apples.

Take small hard apples and stick two or three cloves in each, or cut larger apples in halves or quarters; simmer till soft in a syrup made of a pint of vinegar and a pound of sugar, in which a stick of cinnamon should be boiled.

Cherries are very nice, pickled in the same way, with the exception of tying the spices up in a muslin bag. Leave the stems on.

Salad Dressing for Blanched Cabbage.

Rub a spoonful of wet mustard and a large teaspoonful of salt into a beaten egg; when perfectly smooth, add half a cup of boiling hot vinegar, and half a cup of rich milk or cream. Chop a crisp white cabbage and pour this dressing over it just before serving.

Lemon Pie.

One lemon—squeeze the juice and grate a portion of the rind; yolks of two eggs; four spoonfuls of white sugar; half a spoonful of butter; half a spoonful of flour; a third of a tumbler of milk. Bake like a custard, in rich paste. Beat the whites of the eggs with a tablespoonful of sugar to a stiff froth, and spread over the top. Brown in the oven.

Another Lemon Pie,

To be baked with an upper crust. One lemon—squeeze the juice and grate half the rind; a potato, as large as the lemon, grated; a cup of sugar and a cup of water. Mix well, adding a little salt.

Cream Pie.

One cup of sugar; three eggs; one cup and a half of flour; a teaspoon of cream of tartar, and half a teaspoon of soda; spice and salt. This makes two pies on round tins. Split them when cool.

For the inside—one cup of sugar; half a cup of flour; two eggs well beaten together; stirred into a pint of boiling milk. Flavor with lemon or vanilla.

A Nice Dish for Breakfast.

Toast stale bread nicely; drop eggs in boiling water till the whites are coagulated; dip the toast in butter with a little hot water added, or simply spread with butter; cut the slices in three or four pieces, lay an egg on each, with a sprinkling of salt and bit of butter.

Torturing Neuralgia

Has been speedily relieved by a flannel bag of hops sprinkled with vinegar and made very hot. Cover it with hot, dry, flannel, to retain the heat as long as possible. **Mary.**

Parsonsfield, Me., March 14, 1869.

Lemon Pie.

Take one large lemon; cut off the outside skin, so that no yellow is left, and then cut round in very thin slices; lay them evenly on your crust, only one thickness; scatter over a little flour and one cup of sugar; add four tablespoonfuls of water, and your pie is ready for the top crust. Bake in a slow oven.

Another Way.

For three pies, take two lemons; grate off the yellow; roll them till soft, and squeeze out the juice in a cup; chop the lemons very fine; take two cups of water; a cup and a half of sugar; half a cup of flour; put in the lemon juice; stir them all together and pour on your crust; then cover as soon as possible, and set in a quick oven. Bake half an hour. **Leah.**

Guilford Centre, Vt., March 15, 1869.

Remarks.—We are glad to find our lady correspondents once more resuming their pens to aid us in filling the portion of our paper set apart for their special benefit. We have other communications on hand which we shall make room for at an early date, and are always pleased to receive communications on subjects of practical interest, especially on questions pertaining to Domestic Economy. We resume, this month, the series of articles by Miss Hale, interrupted by the illness of the author. **Ed.**

A RARE DOORSTEP ACQUAINTANCE.

There is a little old Genoese lady comes to sell us pins, needles, thread, tape, and the like *roba*, whom I regard as leading quite an ideal life in some respects. Her traffic is limited to a certain number of families who speak more or less Italian, and her days, so far as they are concerned, must be passed in an atmosphere of sympathy and kindliness. The truth is, we Northern and New World folk cannot help but cast a little romance about whoever comes to us from Italy, whether we have actually known the beauty and charm of that land or not. Then this old lady is in herself a very lovable kind of person, with a tender mother-face, which is also the face of a child. A smile plays always upon her wrinkled visage, and her quick and restless eyes are full of friendliness. There is never much stuff in her basket, however, and it is something of a mystery how she manages to live from it. None but an Italian could, I am sure, and her experience must test the full virtue of the national genius for cheap salads and much-extenuated soup-meat. I do not know whether it is native in her, or whether it is a grace acquired from long dealing with those kindly-hearted customers of hers in Charlesbridge, but she is of a most munificent spirit, and returns every smallest benefit with some present from her basket. She makes me ashamed of things I have written about the sordidness of her race, but I shall vainly seek to atone for them by open-heartedness to her. She will give favor for favor; she will not even count the money she receives; our bargaining is a contest of the courtliest civilities, ending in many an "Adieu!" "To meet again!" "Remain well!" and "Finally!" not surpassed if rivaled in any Italian street. In her ineffectual way she brings us news of her different customers, breaking up their stout Saxon names into tinkling polysyllables which suggest them only to the practiced sense, and is perfectly patient and contented if we mistake one for another. She loves them all, but pities them as living in a terrible climate; and doubtless in her heart she purposes one day to go back to Italy, there to die. In the meantime she is very cheerful; she, too, has had her troubles,—what troubles I do not remember, but those that come by sickness and by death, and that really seem no sorrows until they come to us,—yet she never complains. It is hard to make a living, and the house-rent alone is six dollars a month; but still one lives and does not fare so ill either. As it does not seem to be in her to dislike any one, it must be out of a harmless guile, felt to be comforting to servant-ridden householders, that she always speaks of "those Irish," her neighbors, with bated breath, a shaken head, a hand lifted to the cheek and an averted countenance.—*Atlantic Monthly for April.*

THE UNHOLY DESIRE OF DRESS.

You wish to dress your wife better than your circumstances will allow. She wants to have you. She is a woman of spirit, as it is said, and she does not mean to be a drudge. "Why should our neighbors," she says to her husband, "dress any better than we? They are made of the same flesh and blood that we are. See how they come out. I don't think a man of any spirit would let his wife and children go to church dressed as you let us go. Look at these children. You would think that they had just come out of some slop-house! If I had married as I might have married, we should have had different times—I and my children!" How many men are stung to the quick by such remarks from their wives! Oftentimes their moral sense revolts, at first, and they feel indignation; but "continual dropping wears a stone;" and by and by the man is dressed a little better than he can afford, and his wife and children are dressed better than he can afford; and somebody must pay for the extravagance. I do not say that they are tempted to steal; but I do say that they grind. They mean somehow to get it out of the milliner, out of the dress maker, or out of the merchant. They intend to make one hand wash the other somehow, and they go into petty meanness to bring it about. And this desire to dress better than they can afford is taking off the very enamel of their virtue, and taking out the very stamina of their religious life. Unimportant as it seems, ostentatious vanity in dress has ruined many a family, and damned many a soul!—*Henry Ward Beecher.*

The Proper Size of a Lady's Foot.—Boots, ladies' boots, are the subject of a letter from Mr. Buomi to the London Builder—a strange medium for such a topic, by the way. He has been measuring the foot of the Venus de Medici, or rather (it amounts to the same thing) of an accurate cast of the statue. The erect height of the figure is, as is well-known, five feet two inches, and he finds the length of the foot to be exactly nine inches, or as nearly as possible one-seventh of the height. The breadth of the widest part of the sole is three and three-eighths inches, a fraction over one-eighteenth of the figure's stature. From these data, and a knowledge of her height, every lady can determine what should be the size of her boots; she may exceed the dimensions given in the formula if she sees fit, but woe to her health, and, according to Mr. Buomi, good-bye to the symmetry of her pedals, if she tries to squeeze them into anything less. But does the Venus, or any other idealization, represent every case of the humanity it typifies? If, as is certainly the case, some feminine extremities exceed the sculptor's proportions, others as certainly fall within them; and it is hardly likely that the possessors of these will wear boots too big for them merely for the sake of conforming to a fancy standard.

Woman's Labor.—According to certain rules of society, women are required to look upon labor as a degradation and a disgrace, and to disrespect the remuneration they get from manly toil. It is different among the male portion of the community. The schoolboy is trained to be a workman, and if society shuts her door on him he has still mechanical skill which brings plenty to rejoice him. The female is not so; she depends upon marriage. You hear a woman say to one who asks her does her daughter work: "My daughter work! Never. My daughter did not do a single piece of work in all her life; she shall marry some day." When it is asked of the painter will he bring his boy up to his own trade—"Bring my boy up to my own trade," says the painter, "Never! he shall be brought up to no labor, he shall be a gentleman," as though a gentleman could mean anything in America but a pure heart, a clear mind, and an unsullied conscience and a manly life.—*Anna E. Dickinson.*

Women as Postmasters.—President Grant has sent in to the Senate the names of Elizabeth Van Lew to be postmaster at Richmond, Virginia; Eliza F. Evans to be postmaster at Ravenna, Ohio; and Emily J. C. Bushnell to be postmaster at Sterling, Illinois. It is not a new thing under the sun that a woman should be made postmaster; in England many of the country offices are in charge of women; in this country several Presidents have appointed women to such places; and certainly no one can object to the appointment of Elizabeth Van Lew, which is "in acknowledgment of important services to the Union army during the rebellion." A woman who was able to render "important services" to her country during a time of war, is doubtless able to manage a post-office.—*New York Evening Post.*

Only the Truth.—An unknown lady recently wrote thus, and how truly:—

"It would be no privilege to be the wife of the larger proportion of the men one meets on the street; and I not unfrequently find myself analyzing masculine faces, and guessing at the relationship existing between such a one and his wife. It is but rarely, I confess it, that I meet a face which tempts me to say, 'Happy is the woman that calls thee lord!' And yet I repeat my honest conviction that the relationship of wife and mother is the purest and noblest, the most sacred, and the most elevating in the entire range of the humanities."

THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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MONTHLY.

SIMON BROWN, } EDITORS.
S. FLETCHER, }

A SHORT TALK ABOUT JUNE.

"And after her, came jolly *June*, arrayed
All in green leaves, as he a player were;
Yet in his time he wrought as well as play'd,
That by his plow irons mote right well appear."

BRIGHT ploughshares are taken by the poet as evidence that the work of June was well done, and that due preparation was made for such succeeding duties as the growing crops might demand.

But what does this common word *June* mean? A word that always suggests pleasant memories, and revives the recollection of birds and flowers, of walks and talks in the garden, and of the fragrance of roses.

RICHARD VERSTEGAN wrote a book nearly three hundred years ago upon "*The Restitution of Decayed Intelligence*," and among other things he says that the old Saxons gave the name of *Weyd-monat* to the sixth month, "because their beasts did then *weyd* in the meaddowes, that is to say, goe to feed there; and hereof a meadow is also in the Teutonicke called a *weyed*, and of "*weyd*" we yet retain our word *wade*, which we understand of going through watery places, such as meadows are wont to be."

It is interesting to observe how closely the New England people have adhered to the old Saxon meaning of the word meadow. In some parts of our country all the upland mowing fields are called meadows, while with us they are the *low* grounds, bearing an inferior quality of grass, and many of them subject to an annual overflow of water.

Some other writers say that the word "weyd" is probably derived from the German word "weyden," which means "to go about as if to pasture." Others still find its derivation in a different source. Mr. Leigh Hunt says that the name of *June* gave rise to various etymologies; but the most probable one derives its name from *Juno*, in honor of whom a festival was celebrated at the beginning of the month. *Juno* was the Queen of the gods, who rode in a superb chariot, drawn by peacocks. *Hebe* was her attendant. HOMER gives the following vivid picture:—

"At her command rush forth the steeds divine;
Rich with immortal gold their trappings shine.
Bright Hebe waits: by Hebe, ever young,
The whirling wheels are to the chariot hung.
On the bright axle turns the bidden wheel
Of sounding brass; the polish'd axle, steel;
Eight brazen spokes in radiant order flame;
Such as the heavens produce; and round the gold
Two brazen rings of work divine were roll'd.
The bossy naves, of solid silver shone;
Braces of gold suspend the moving throne;
The car, behind, an arching figure bore;
The bending concave formed an arch before;
Silver the beam, th' extended yoke was gold,
And golden reins th' immortal coursers hold."

Such was Madame *Juno's* team, and we rather think it would outshine those of the yellow-gloved gentry on the "Fifth Avenue," or "Boston Neck."

June is the sixth or middle month of the year, and is, perhaps, crowded with more beautiful things to delight the senses and make the world appear attractive than any other month of the year. The temperature of the air is mild; the hopes of spring are realized, yet the enjoyment is but commenced; we have all summer before us; the singing of the birds, the hum of the bees;—little clouds lie in lumps of silver about the sky, and sometimes fall to stimulate the growth of the herbage; the fields are in blossom with the sweet and beautiful clover, and the roses, garden and wild, fill the air with their grateful fragrance.

As evening approaches, it is a *June* evening; there is nothing else like it. The sights and sounds are peculiarly *June*. In the doubtful dusk, the bat and the owl venture forth, flittering through the glimmering quiet. As night grows deeper, the moon is most silvery, the sky at once darkest and clearest; and when the birds have done singing, you may hear happy solos and choruses from the denizens of the pools, and the voices of the brooks of the spring running and tumbling through their stony channels; or, as *Coleridge* has it:—

A noise like of a hidden brook,
 In the leafy month of *June*,
That to the sleeping woods all night
 Singeth a quiet tune.

Nature has her peculiar ways in all seasons, and it never is a waste of time to observe them. We grow wiser, stronger, better, by such observation. It helps us in the family, in the field and in the granary. It opens a book of revelation to us in all the labors of the farm. It instructs, purifies and softens the rugged labors which the month of June demands, and leads us pleasantly from "Nature up to Nature's God." Let us mingle it, then, with our daily toil, and find in it perpetual encouragement to labor on manfully and cheerfully in the duties of life.

While we preach this lay sermon, however, we are not forgetful of what is to be done in this busy month, in order that the farm work shall be performed in its appropriate time.

Quite an extended observation has led us to believe that an opinion has become common that late planting is as favorable as early planting. In consequence of this, nearly half of our corn crop is not planted until about the first of June, and many of the potatoes somewhat later. The result of such a practice was sadly felt in the early and severe frost of last autumn, when hundreds of acres of corn were smitten with frost before the grain was ripe, and greatly injured. So it was with the potatoes. In many fields the vines were in the midst of a vigorous growth when arrested by the frost, and the crop essentially damaged. That the season was cold and backward last spring, is true, nevertheless numerous fields on high and dry lands were not planted until the very last days of May.

We ought to plant early so that we may do the June work early. Most of the hoeing for the season ought to be done before the work of haying comes on.

Another change of opinion has also taken place among farmers, which we think will result in much good, and that is in *commencing* to get the hay crop in June. If haying is not commenced until all the grass of the farm is in suitable condition to be cut, a considerable portion of it must be so far advanced as to essentially reduce its value.

All the stock like grass better than any other food; so that the nearer the hay resembles grass, the better the cattle will like it, and the more valuable it will prove for them. It is a common remark that good *rowen* is highly relished by cows and causes an unusual flow of milk. Why? Because it is cut and cured when the grass has attained only about one-half its natural growth,—no seed is formed, and it retains nearly all its grass quality. This quality is what we need to retain in all the hay crop. It may be secured by cutting the grass as soon as it comes into blossom, and curing it without much exposure to the sun. If allowed to stand until the seed is formed, a striking change would take place in most of it, which would greatly reduce its value. The sugar and starch of the leaves and stems would principally go to perfect the seed, leaving the plant almost a dry and tasteless woody fibre.

Many excellent farmers now commence their haying as early as the 20th of June, and state that by so doing they not only get more fodder, but that of a greatly superior quality.

Most fields in good condition may be cut twice, and both crops are improved by the early cutting.

FARMERS AND THE WORKING CLASSES.

There have been so many homilies read at agricultural fairs, and published in agricultural books and papers, on the great mistake which the sons and daughters of country farmers make in leaving the farm for other kinds of business, that many of them probably are tired of all exhortation upon the subject. Young folks in these days have certain inalienable rights, with which it is not safe to intermeddle, among which are the choice of a partner and the selection of a profession. And those who attempt to interfere in either of these matters often hasten just that consummation which they most devoutly wished to prevent.

It is, therefore, possible that the great amount of lecturing which has been volunteered against leaving the farm has persuaded ten to shoulder their packs as often as it has induced one to remain. Especially are we apprehensive that little good has resulted from the glowing commendations of farm life by those who "look one way and row the other." Men who have acquired fame and fortune in politics or physics, in law or letters, in divinity or dry goods, may "hold an audience," as they often have done at farmers' festivals, but can they hold the thoughts of their young auditors from such inconvenient old proverbs as "actions speak louder than words?"

This is a free country; a fact that is generally found out early in life by the rising generation, and perhaps the sooner we old fogies acknowledge it the better. The right of all to the "pursuit of happiness" is guaranteed in express terms by our "Declaration of Independence." The road, then, that leads to happiness, to distinction and honor, to an easy life and a comfortable old age, is a lawful road, a public highway, and it will be travelled whatever may be its direction. We should not hedge it up if we could, and we cannot if we would.

If all the girls and boys in the United States can do better in cities and villages than in the country, why should they not all go there? Why ask them to act contrary to their best interests? If such are their convictions, young people may be talked almost to death, but when convinced against their will, they're of the same opinion still; and why should we be surprised to find them at last acting on these convictions?

In this view of the case we are disposed to say to the boys and girls, as we have sometimes said to our oxen and horses, "well, if you won't go where I tell you to, then go where you please, and see how you come out." We see no other course, and we believe this to be a safe one. Throw the responsibility entirely on them. Let them stay on the farm or go into the shop, the store, the office, or wherever they can, or think they can, do best; with the understanding that they do so entirely on their own hook. Let them do it as an experiment of their own, for the result of which they are individually responsible.

With this freedom and personal responsibility we believe that young people may be trusted to work out their own fortunes, and to settle this long agitated question of the balance of the professions.

When cities and villages become so full that people can live less comfortably there than in the country, we believe they will go into the country to live. When there are so many mechanics, merchants and professional men that less money can be made or a less comfortable support be secured in those occupations than by tilling the soil, then individuals will leave them for farming. Until this is the case, all the talk and all the eloquence that can be used is just so much breath lost. As "water finds its level" so will the professions.

Heretofore in this country the professions and trades have been better paid—apparently at least,—than farming, and hence people have left farming for the trades and professions. This we assume is the whole secret of the stampede of country people, which has so alarmed our speakers and writers.

Already, we believe, rents, fire-wood, provisions and all the items of family expense have advanced in cities and villages faster than wages or income, and that not a few city people find trouble in making "the ends meet,"—much more trouble than they formerly did.

This opinion we find confirmed by a late public document—the report of David A. Wells, United States Special Commissioner of the Revenue, appointed by the Secretary of the Treasury. From this document we print a few extracts, beginning with a letter from Hon. Amasa Walker, of Massachusetts to the Commissioner.

"Sir,—The following table, based on the record of ordinary and actual sales, will show you the comparative prices of twenty leading commodities of domestic consumption in the town of North Brookfield, Mass., in the summers of 1860 and of 1868:—

Commodities	Prices in 1860.	Prices in 1868.	Per ct. of increase.
Beefsteaks, 30 ℔s. ⅌ ℔ . . .	$0 12	$0 25	108 3
Beef, corned, 15 ℔s. ⅌ ℔ . .	08	15	87.5
Pork, fresh, 20 ℔s. ⅌ ℔ . . .	10	20	100
Lamb, 10 ℔s. ⅌ ℔	11	25	127 3
Sausages, 10 ℔s. ⅌ ℔	13	22	69.2
Butter, 30 ℔s. ⅌ ℔	22	45	104.5
Cheese, 6 ℔s. ⅌ ℔	12	20	66 6
Lard, 12 ℔s., ⅌ ℔	14	25	78.5
Eggs, 4 dozen, ⅌ doz. . . .	17	35	105 9
Flour, 1 bbl., ⅌ bbl	8 50	15 50	82.3
Fish, fresh, 15 ℔s, ⅌ ℔ . . .	5	12	140
Beans, 8 quarts, ⅌ quart . .	8	17	112.5
Rice, 5 ℔s, ⅌ ℔	5	13	160
Sugar, white, 10 ℔s., ⅌ ℔ .	10	17	70
Sugar, brown, 12 ℔s., ⅌ ℔ .	8	15	87.5
Molasses, 1 gal., ⅌ gal . . .	45	80	77.7
Tea. 2 ℔s., ⅌ ℔	50	1 25	150
Coffee, 1 ℔, ⅌ ℔	20	40	100
Vinegar, ½ gal., ⅌ gal . . .	20	50	150
Potatoes, 3 bush. ⅌ bush . .	50	1 25	150

"Average advance in cost of above quantities from 1860 to 1868, 98.7 per cent.

"The following table will also show you the advance in the prices of labor in the boot and shoe manufacturing establishment of E. and A. H. Batcheller & Co., in the same town, during the years 1860 and 1868, respectively:—

	1860.	1868.	Advance
Common hands ⅌ hour	.16⅔ cts.	20 cts.	20 ⅌ ct.
First class hands, ⅌ hour	.22½ "	27½ "	22.2 "
PIECE WORK.*			
Russet brogans, ⅌ pair	.15 "	21 "	40 "
Black brogans, ⅌ pair	.16 "	22 "	37½ "
Crimping and treeing boots, per pair	.93 "	— "	33⅓ "

"Average advance in the price of labor, estimating equal quantities of each kind, 31.6 per cent.

"From the foregoing statement it appears that the commodities enumerated (in the quantities specified) would have cost the *common* laborer, working ten hours a day at 16⅔ cents per hour, the labor of 20 6 days in 1860, while in 1868, when receiving 20 cents an hour, he would have been obliged to work 34 2 days in order to purchase the same articles for the support of himself and family. His condition, therefore, compared with 1860, exhibits a loss of 41 per cent.; that is, where he then received 100 (reckoned in articles to eat, drink and wear) for his labor he now receives but 59 cts.

"In the case of the brogan-maker, the best paid laborer mentioned, the loss is not so heavy, but still very severe. His pay has advanced from 15 to 21 cents per pair. To purchase the above commodities, he would

In 1868 have been obliged to make	325 pairs,
In 1860, only	229 "
A loss of the making of	96 "

i. e., so much more work to be done before the workman receives the same amount of flour, meat, &c., as in 1860. This equals a loss of 29.2 per cent.; or, in other words, when in 1860 he received 100 he now receives but 70 8 cents.

"Rents have greatly increased, but to what precise extent cannot be so readily ascertained as in the case of commodities. The advance cannot be less than about sixty-fixe per cent.

"Fuel has advanced—say, wood from $5 to $7 per cord, coal from $7 to $12 per ton—an average of about 60 per cent.

"The prices of commodities I have ascertained by a personal examination of the books of one of the principal dealers, and am satisfied that they are correct, not only from the showing of the accounts, but from my general knowledge of current prices.

"The rates of labor have been obtained from direct inquiry of the largest boot and shoe manufacturing concern in the State, and are undoubtedly accurate and reliable.

(Signed) "AMASA WALKER.

"*North Brookfield, Mass.*, *Feb.* 2, 1869.

The following shows the prices paid in Washington for labor on public buildings:—

	1861.	1868.	Increase.
Carpenters	$2 00	$3 50	75 per ct.
Stone masons	2 50	4 00	60 "
Brick masons	2 50	4 00	60 "
Machinists	2 00	3 00	50 "
Plumbers	2 25	3 50	55 "
Blacksmiths	2 00	3 00	50 "
Laborers	1 25	1 75	40 "

General average increase of skilled workmen, 58⅓ per cent.

In the Merrimac Manufacturing Company in Lowell, Mass., the average advance in the wages paid in 1868–9, in the "carding" department, omitting overseers, was 60 per cent.; in the "spinning" department, 52 per cent.; in the "dressing" department, 75 per cent.; in the "weaving" department, 53 per cent. In the repair shop of the same corporation the average advance in the wages of mechanics was 63 per cent.; of overseers in all the departments, 36 per cent. In different branches of mechanical industry, in the city of Lowell, the advance in the wages of machinists, carpenters and blacksmiths was 50 per cent.; of stone cutters, 100 per cent.; of stone and brick masons, 75 per cent. over 1860.

A list of prices of 21 different articles of domestic consumption, similar to that given above by Mr. Walker, shows an advance in Lowell and Lawrence of 91.65 per cent. from 1860 to 1869.

He also presents a large number of letters from leading manufacturers in different sections, giving evidence as to the relative condition of labor and wages in 1869, as compared with 1860.

The Colt's Fire Arms Company of Hartford, have more applicants for work than in 1860 and pay 50 per cent higher wages; the Buffalo and Erie Railroad pay 30 to 50 per cent. higher and can get all they want; the American Screw Company pay 60 to 70 per cent. higher, but the cost of living has advanced still more; C. Aultman & Co. of Canton, Ohio, manufacturers of reapers and mowers, are refusing fifteen to eighteen applications for work per day, never knew skilled labor so abundant, and find men asking for the means to live until work can be got; Stephenson & Co., car-builders of New York, are employing fewer men, sometimes running short time, and pay 50 per cent. increase in wages over 1860; T. W. Griswold, knit goods, Wethersfield, Conn., report their mill idle, having run at a loss last year, wages there 50 per cent. above 1860; Chickering & Sons, labor more fully employed and wages 40 to 50 per cent. higher; Woodruff & Beach of Hartford employ less men by one-third and pay one-third higher wages than in 1860; the Vermont Central Railroad say that common labor is abundant and pay 50 to 66 per cent. higher than in 1860; Miles Greenwood of Cincinnati finds labor not so fully employed as in 1860 and pays 66 per cent. higher wages; J. Ryle & Co., silk manufacturers, Paterson, N. J., 79 per cent.; L. Fullam, boots and shoes, West Brookfield, Mass., 50 per cent.; Ames Manufacturing Company, Chicopee, Mass., for skilled labor 71 to 90 per cent., for common labor 70 per cent.

In the town of Capton, Ohio, the advance in wages employed in the manufacture of agricultural machinery was from 55 to 60 per cent. in Nov., 1866, as compared with the same month of 1860, the advance in the cost of living, as deduced from the prices of sixteen of the leading articles of domestic consumption, viz.: flour, corn, meal, buckwheat-flour, beef, butter, eggs, lard, potatoes, apples, chickens, dried apples, coffee, sugar, syrup, calicoes and muslins, showed an average increase of about one hundred and thirty per cent.

A real estate agent in Philadelphia furnishes a statement of the monthly rent of 26 houses in Philadelphia, in 1860 and 1869. They rented in 1860 for $382.34; in 1869 for $882.00,—an advance $499 67, or 130.69 per cent. increase.

The following is an extract from the report of Gen. H. K. Oliver to the Legislature of Massachusetts, "on the employment of children in factories," which is endorsed by the Springfield *Republican* "as a tolerably good description of what most of us have seen:"—

"Certain parties are called the great manufacturers of New England, and they have been engaged as such for generations, yet the man of the family that has been in their employ, and come out of it with more than enough for a decent interment, is yet to be found."

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*Those who perform piece-work cannot rely upon as constant employment as those who work by the hour, which accounts for the difference in price.

The foregoing is but a small portion of the statistics presented in Mr. Wells' report. It may be proper for us to add that they were not collected for the purpose of inducing anybody to leave the city or to persuade any one to remain upon the farm. His object was to show Congress that these city and village laborers are so much worse off than they were in 1860, that they are entitled to its aid.

We submit our extracts to the consideration of our young friends who are deciding on a choice of profession and location, with the simple remark that to our mind the facts cited by Mr. Wells show that people have crowded the trades and the professions, the villages and the cities, until the cost of living is greater than the means; until the consumers exceed the producers; until employers can dictate wages and the landlords rent; until cities and villages are full, and the country empty.

If left to itself, the great law which has ever governed supply and demand, will regulate all apparent discrepancies between 1860 and 1869, between farming and other kinds of business, between the city and the country. The only trouble is that individuals may suffer from acting in disregard or in ignorance of this law.

NEW ENGLAND AGRICULTURAL SOCIETY.

At a meeting of the Trustees of this Society, held in this city, April 27th, the Secretary, Hon. Daniel Needham, read a communication from the Trustees of the Maine Society, proposing to unite with the New England Society in an exhibition on the grounds of the Forest City Park, in Portland, during the second week in September next.

On motion of Richard Goodman, of Lenox, the proposition was accepted, and the President and Secretary were authorized to contract with the Trustees of the Maine Society for holding the Fair in accordance with the proposition.

The general arrangements for the Fair were then debated and adopted, being nearly the same which governed the Fair held at New Haven last year. Letters of inquiry respecting the Fair were ordered to be addressed to Col. Needham at Boston, or S. L. Boardman, Secretary of the Maine Society, at Augusta. The Fair will commence September 7; and it was agreed that no animal should be precluded from taking a sweepstakes premium, or excluded from competition for the first premium in any class, by reason of having taken the same at previous Fairs of the Society. An additional premium of $25 is to be offered for the best bull five years old and upward, with specimens of his stock of not less than five.

The list of premiums for trotting horses was left with the Trustees of the Maine Society to arrange, with the understanding that no such extravagant sum shall be appropriated as was paid at New Haven last year.

Premiums were offered for grade sheep, and the rules laid down by Halstead were adopted as a standard of excellence in judging the quality of poultry.

The California Steam Plough.—The editor of the Butte, California, *Record* recently witnessed an experiment with the Locher Steam Plough, on which the inventors have been at work a year or two past. On this occasion the plough was run at odd spells during the day, without any particular design of showing what amount of work it was capable of doing in a given time. One gentleman, however, timed the machine while running across the field. It made four hundred feet in three minutes, ploughing a strip twelve feet wide. This is at the rate of two and one-fifth acres per hour, without allowance for turnings or stoppages, and probably when at its highest speed. There was a large crowd of people on the ground as spectators, all of whom were pleased with the performance of the little "dummy." The editor asks if thirty bushels of wheat can be raised to an acre on land ploughed only three or four inches deep and left in a lumpy condition, what may we expect to raise on land worked to the depth of six or seven inches, and thoroughly pulverized, as it is done by the Locher plough?

For the New England Farmer.

THE GARDEN IN JUNE.

In no month of the year are the poetry and prose of the farmer's or gardener's life more intimately mingled than in June. Every surrounding of earth, air and sky are full of inspiration. The elements are all striving, individually, to express the joyous fulness which spring only awakened. As steadily the sun climbs higher and higher in his shining path, the shortened shadow at each succeeding noon marks his progress until his full glory is reached in the summer solstice, where he rests for a day or two, and then takes to a back track, fitly represented by the constellation of the zodiac, which he is apparently passing through this month. The constellation Cancer, so called from its fancied resemblance to the crab, which goes forward or backward equally well, is the representation of the month, the days of which increase till the 21st,—when summer really begins,—and then, after standing the same a few days begins to decrease.

But it would ill become us to follow such an example of retrogression in our garden operations. We should go constantly forward, improving on each passing day. Our aim in all things in this life should be a high one, and then we should constantly press forward to that end without any retrograde movement on our part.

Although June is the pleasantest month of the year, in our northern climate, it also brings with it abundant labor in the garden, as well as in the field; but in the garden we are cheered by the rapidly increasing returns which we receive as the reward of our labors. Our table presents us daily a pleasing variety from the garden,—asparagus, greens in variety, lettuce, cress, radishes, rhubarb, strawberries,—all good, fresh and crisp; how unlike the supply that reaches the tables of our large cities, which, having been transported a long distance, has lost much of its freshness and healthfulness.

Asparagus.—The cutting should cease by, or soon after the middle of the month, so as not to exhaust the roots. Hoe off and pull out the weeds, and give a dressing of salt or brine to keep them down.

Beans.—Plant dwarfs for succession, and have a supply for canning. Train running sorts to the poles. Small Limas planted the first of the month in rich, warm soil, and *well* cared for, will give good shell beans for late succotash, for drying or canning.

Beets.—The main and winter crop should be planted before the middle of the month. Hoe, weed and thin the earlier planted. Those pulled out make nice greens.

Cabbage Tribe.—Transplant from the seed beds cabbage, cauliflowers, broccoli, kale, &c., as soon as the plants are large enough. Give them all well enriched soil that was not occupied by any of the same family last year, and hoe as soon as they take root, and the more frequently, the faster they will grow.

Carrots.—Weed and hoe as early as possible. The bane of this crop is weeds, and the earlier the crop is worked the easier weeds are kept in subjection. Seed may yet be planted, if done the first week in the month in highly enriched soil, first soaking the seed, and a good crop realized.

Corn.—Hoe and cultivate that already planted; give liquid manure, plaster or ashes, and encourage to a rapid growth and early maturity. Plant for succession and late crops. There is time enough after the middle of the month to obtain good mature boiling ears from the Trimble and other kinds, before fall frosts come to cut it off. Provide for a full supply to dry for winter use. Some claim that they can preserve it successfully by canning, but the more practical way is to dry it, which can be successfully done in any family.

Egg Plants.—Plant these out as soon as cool nights are over. Enrich the hills well, and as soon as the plants are established, hoe and hoe frequently, giving, occasionally, liquid manure. The best time to apply this is when it rains moderately.

Melons, Squashes and Vines.—Hoe, thin and keep free of weeds, bugs, &c. The striped bug, squash bug and borer will need looking after frequently, to keep them from injuring the crop seriously. The eggs of the squash and striped bugs will be found on the under side of the leaves

Potatoes.—Only early potatoes are planted in the garden; and to have them mature early, they should be planted early, with good clean culture. Give a sprinkle of ashes, plaster and salt mixed, in the proportion of eight of ashes, two of plaster, and one of salt, and work it in around the plants well.

Sweet Potatoes.—Set sweet potato plants the first of the month, in well enriched conical hills or ridges. The sweet potato can be successfully raised in all our New England States with a little care and attention to details, and thus add a very desirable luxury to the vegetables capable of being placed on the farmer's table.

Tomatoes.—Pinch back rampant growers. A variety of modes are in vogue for training and pruning, some of which not only give an ornamental appearance, but tend to the earlier maturity of the fruit.

Weeds do not grow in a *well* kept garden; the atmosphere is not congenial to them, neither is there room for both good vegetables and weeds. Wm. H. White.

South Windsor, Conn., 1869.

Cooling Milk.—In an article on this subject in the *Utica Herald*, Mr. Willard says he regards this subject of great importance to farmers and cheese-makers. Unless properly cooled as fast as milked it is often so far advanced in decomposition, if not actually sour and tainted, when received at the factory, that it is impossible to work it up satisfactorily, however much care may be taken to keep it cool after it is received. Of the several inventions for cooling milk which have made their appearance within the past year or two, Mr. Willard says, they are too complicated, if not too expensive, and too difficult to keep clean, ever to become generally adopted. Yet enough has been developed, he thinks, to authorize the expectation that some simple apparatus for the purpose will soon be devised. Until a better process is known the cans must be set in a tub or trough of cold water and the milk be frequently stirred from the bottom with a dipper or other convenient article. It will not do to carry the milk a mile or two in hot weather, without first removing the animal heat and the animal odors.

—R. Baker, an Ohio breeder of Short-horns for dairy purposes, gives a list of thirteen of his animals in the *Ohio Farmer*, which have been tested for butter and milk at the Fairs of the State and Loraine County Agricultural Societies, many of which took first premiums. Different animals are reported to have produced from 16½ to 20¾ pounds of butter, and from 422 to 551½ pounds of milk, in a trial of ten days, fed on grass only.

EXTRACTS AND REPLIES.

COOKING FOOD FOR COWS.—BONES FOR HENS.

In the last Farmer I notice some remarks by Mr. Loring upon feeding cows, made at the milk producers' convention at Nashua. He says he has tried all methods and does not now steam food for them. Now I had supposed that meal reduced to gruel or pudding, and hay cut and steamed would be far preferable. Indeed I have heard it asserted that one-half might be saved in feeding meal by cooking. But if nothing can be gained in this way, I should like to know it. If it is best to feed cows as horses are fed, on cracked corn and oats, or as cows are now very generally fed, on dry Indian meal and dry hay, I do not see how any money is to be made in this section in raising milk; for who can take a stock of cows and feed them thus, and sell all the milk and manure for enough to pay for the food consumed? I do not think any one can in my neighborhood. I see, however, by the same number of the Farmer that a man in New York steams all his food, except hay, having a steam engine in his barn.

Now, it seems to me that this is an important subject; one in which all are interested, as all want milk. If anything is to be gained by steaming food for cows, especially Indian meal, why has not some one found it out? Why not cook meal for horses? Some consume half a bushel daily. If one-half, or, as others assert, one-quarter will answer as well, would it not pay? And then, too, does not such highly concentrated food greatly injure both cows and horses? If any one of your readers has thoroughly tried steaming and found it a failure, I should like to hear from him the particulars.

Can you inform me whether I can get bones cracked small enough for hens to swallow, any cheaper than to do it by hand? I mean those fresh from the meat shops. I think such bones the best food in winter, as they prefer them to scraps. If your correspondent who burns bones for his hens, will try a few pounded raw bones instead of those charred, I think his hens will know the difference, and show by their action that they think them a great deal the best. C. F. Keyes.

Westford, Mass., March 4, 1869.

Remarks.—This question of cooking food is still an open one, although it has been discussed in agricultural papers for many years. Perhaps our Agricultural Colleges will decide this and other questions which farmers cannot settle among themselves. But if they should settle them, would they stay settled, while there is any truth in such old sayings as "what's one man's meat is another man's poison," "many men of many minds," and the like? As it is not for us to dictate to farmers any system of practice or any course of procedure, we publish from time to time articles on both sides of this as well as of other questions, from theoretical and practical men. While the New York Farmers' Club, at a late meeting, was discussing the advantages of cooking food for poultry, Dr. J. V. C. Smith said he "did not believe in having anything artificial about chickens; this cooking their food is contrary to the established rules of the faculty. Doctors know it is all false and unnatural. Beside it is something undignified for a rational, intellectual being like man, made in the image of his Creator, to be puttering over chicken dough and cooking the food of animals, when their Creator has made them with a mill and a stove in their own economy to do their own grinding and cooking." He also believed that our diseased meats, in many instances, were the consequences of such artificial and unnatural feeding. Whether the Dr. would have us turn our poultry and animals into the woods, as being more "natural" than a barn, we are not informed. Now, as our correspondent says, other Doctors save half the food by cooking! Who shall decide when doctors disagree?

The bone mills can furnish bones ground as coarse as you may desire; and we think they would do well to put some into the market for the purpose of feeding poultry.

CULTURE OF ASPARAGUS.

Last fall I made a bed of sufficient size, three feet deep, and filled up alternately with rich muck and hog manure, mixing all well together. I want this patch for an asparagus bed, and as spring is drawing near, will you or the readers of the Farmer inform me the best course to take in planting and culture to be early and profitable for the house?. D. D.

Shaker Village, N. H., March, 1869.

Remarks.—Let the rows be one foot apart, and the plants the same in the rows. If the rows run east and west, so as to receive the full power of the sun's rays, the product may be a little earlier. Purchase good, three years old roots, and place the crown of the root three or four inches below the surface. Some persons think five inches is not too much. If you have roots as old as we have stated, a few messes may be safely cut from them the second year, but if they are younger, you will have to wait longer for a crop. The transplanting is like that of other plants, only that the crown of the root must be set deeper. Keep all weeds out, and enrich the bed every autumn with good compost manure. If the bed is covered in November with coarse litter from the horse stalls it will help it. After cutting is commenced, all the plants should be taken, until it is time to leave off altogether, which is about the middle of June. A bed well set with good roots and well tended will last from twenty-five to fifty years.

DISEASES OF STOCK.

I was considerably interested in the article of F. A. C. Nichols, in relation to the unknown disease among his sheep. The cause or origin of the disease seems to be somewhat obscure, although it might have arisen in a very simple manner. We are apt to run directly for curatives or medicines when our creatures become diseased, and neglect to inquire into the causes that produced the calamity. Unless we destroy the root of the matter it will do no good to clip the branches. Fever or inflammation always attends an unnatural condition of the bodily organs in both man and beast. A slight cold will cause internal fevers and other complaints, because the pores and outlets of the body become obstructed, and cannot perform their natural and healthy functions.

When the issues or pores in the leg of the hog, for instance, become stopped, the animal is always feverish, owing to the waste matter being retained and thrown upon the internal organs; this causes these also to lose their natural functions. Open the issues by proper remedies, and place the animal in a condition to keep them so, and the hog will be generally healthy. The disease among neat cattle, commonly called horn ail or brain fever, is generally caused by a cold, which impairs the tone of various organs of the head and produces inflammation or fever.

I have no doubt that many diseases among sheep arise from a similar cause. Some years ago I had the care of sheep, and used to examine carefully all that were sick or died, but never saw any that were exactly like those spoken of by Mr. N. In all sheep that I have examined, I have noticed a small orifice between the parting of the hoofs, which I call their issues. I have often found these little holes or pores obstructed in diseased sheep, and I used to apply sweet oil, rubbing with a small corn cob. If these openings in sheep are similar to the issues in the legs of other animals, and serve as outlets, it is very necessary to keep them open and healthy, as their obstruction induces internal inflammation of the glands and other organs, that terminates in loathsome disease.

If I had sheep affected as those spoken of, I should pay strict attention to their feet, applying a little sweet oil, give some mild physic, change their diet and keep them in a place where they would have a pretty even temperature.

W. W. TRASK.

Reading, Mass., March 28, 1869.

GOOD YIELD OF WHEAT AND BARLEY.

As an illustration of the "sunny side" of wheat raising in Northern Vermont, I have to note the following:—Mr. Henry Chase, of Lyndon, Vt., raised on 2¼ acres of land, last season, 82 bushels of excellent wheat. Two bushels per acre was the amount sown. The kind of wheat grown was a bald variety known as the "gold-drop." The ground was in good condition, as a matter of course, and was planted to corn the year previous.

The season before, Mr. Chase raised on about three acres of land 171 bushels of barley. The amount of seed sown per acre was four bushels. This piece of land was also in good condition, and was planted the previous year to potatoes. It was enriched with barnyard manure; no phosphate.

I report these as examples of our best results under favorable circumstances; though probably no more than what other farmers have done, and many may do if they will make the effort. The question arises, then, Cannot Vermont farmers raise their own wheat—at least, more than they do—and make it profitable? I. W. SANBORN.

Lyndon, Vt., 1869.

MICE IN ORCHARDS.

Last fall I made an inquiry through your valuable paper for some composition that might be applied to young fruit trees, late in the fall, to prevent mice from gnawing the bark during the winter. A number of preventives were proposed, such as have frequently been prescribed by various authors upon fruit growing; all of which have failed to keep off the mice. But as "try, try again" is my motto, I would say to all who feel an interest in fruit growing, let us ascertain, if possible, some remedy, and make it known by sending it to the FARMER. The damage done by mice in Maine the past year can hardly be estimated. Millions of young fruit trees have been killed, young forest trees injured, and grass damaged very much. Unless something happens to diminish their number, I do not see how full crops of grain can be raised. I have a neighbor who has taken much pains within a few years to raise an orchard. He has one containing sixteen hundred nice grafted trees, and he thinks he shall be able to save only about five hundred, the rest are killed. I have three hundred apple trees that have been set within five years, the most of them are spoiled; also, a nursery of about twenty thousand, mostly budded, which are spoiled as far as I learn digging through the snow, which at this time is some five feet deep. J. J. T.

Dixfield, Me., March 29, 1869.

THE NORWAY OAT.

The wonderful original Norway oat first took root but a few miles from my residence, and perhaps it is proper, as I live so near the fountain head of this magnificent production, that I should blend my voice in the grand anthem which celebrates its praises. Be it known then, that this is a farming community, and considerably given to the production of oats. Hence one might have supposed that some sharp-eyed farmer, peering over his neighbors' fences, would have perceived the peerless excellences of the growing Norways, and not have left the discovery to be made by the agents of a distant city establishment. But so blind are farmers that fifty bushels were recently sold to a miller in this section at 75 cents per bushel, but luckily they were discovered by an agent and saved from the base use of horse-feed! Now farmers can have them for seed at a price which proves their high value. If any farmer has already sown his oats, he can forward his money to some other discoverer for an eye or two of an equally valuable potato. Verily agriculture is an ennobling pursuit and a grand field for—humbugs.

South Royalton, Vt., March, 1869. A. B. P.

COWS WITH DRY TEATS.—PRICES AT WHITE RIVER JUNCTION, VT.

Will the cow give as much milk from three teats as from four? I find many persons claim she will. If she will, why not as much from two or even one, as from four?

Much obliged to S. C. Pattee for his information in relation to the management of hen manure, plaster and ashes compost for corn, of March 27. I have four acres that I wish to treat in the same way this season. Just the information I needed. A big rain here since forenoon yesterday. Snow is leaving fast. Hay $15 00 to $18.00; corn $1.20; oats 75 cents; wheat $1.50 and $1.75; potatoes 60; butter 40; cheese 20 and 24; eggs 25 cents per dozen. No maple sugar made yet Robins, blue birds and sparrows have come among us within a few days. H. N. SAVAGE.

White River Junction, Vt., March 29, 1869.

REMARKS.—It is possible that a cow otherwise healthy may give a little larger proportion of milk from two or three teats than from four, from a wonderful provision of nature to supply deficiencies; as a one-armed man may be more than one-half as powerful as he was with two arms; but try to sell a cow at Brighton with only three teats if you wish to learn the state of public opinion on the subject.

HIRED HELP.

For several years past I have heard more or less complaint about help on the farm. Why is it that there is so much trouble among farmers with their hired help? Is it only because the help is poor? or is the fault partly at least with the employers? I have myself labored for many different employers, and as a hired man may be permitted to say, that I believe the fault is often with the employers. Some farmers work their help late and early, scold and fret at them most of the time, and find fault about the manner in which they do their work. They never talk over their plans of operations with their men, but seem to take pride in keeping them ignorant of what they are to do until ordered to take hold of some particular job, which they are to go at, as slaves go to their tasks, without thought or responsibility, other than to do as they are bid. This is too much like slavery for me. Even hired men dislike to be treated as machines, or as animals without judgment, skill, or thought of their own. Confidence begets confidence; distrust engenders distrust; or at least such has been my experience. Show your hired man that you have confidence in him; ask his opinion about the work in hand, and so far as is consistent with your plans, throw him on his own resources and allow him to proceed in his own way, and on his own personal responsibility, or give him your reasons in a pleasant and respectful manner for preferring a different course, and he goes at his task with different feelings from those which are excited by orders and directions so minute as to bewilder, and so peremptory as to provoke. A common fault with employers is too much ordering,—one command follows another with such rapidity that the employed hardly knows or cares what he does, so that the last order or command is observed. As a sample of this kind of ordering, I often think of a woman of my acquaintance who ordered her hired girl, who was house cleaning, to put some soft soap on a varnished door, and before she had hardly finished doing so, ordered her to get the potatoes and wash them for dinner, and then on finding the varnish injured, discharged her for leaving the soap on the door, or, as she expressed it, for not obeying orders!

If you want good help treat them like men, allow them occasionally a day of recreation, and if convenient a team when desired. If they do well, be not afraid to praise them; if they do wrong, tell them so in kind words, and show them the better way. Fretting and scolding does you little good and them much harm generally. J. H. K.

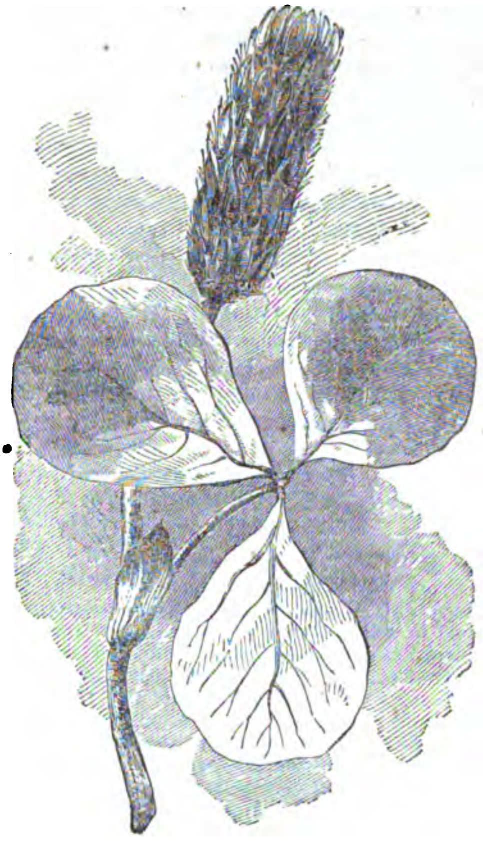
Barre, Vt., March 24, 1869.

RAISE THE CALVES.

Just say to the readers of the FARMER that they had better raise their calves this season than to sell them to be carried off on the cars, just because they are offered a good price for them at one or two weeks old. I raised one year twenty-five calves and had only five cows, and did not lose a calf. I fed them porridge, and found wheat ground without bolting, bran and all, the best material to make it of, as calves will bear more of it than of any other grain, without scouring. I have never known cows to sell so high as they do this spring; we cannot get the best here for less than a hundred dollars each. I think it will pay to raise calves. C. C. KIMBALL.

North Haverhill, N. H., March 27, 1869.

—The idea that the extreme ends, or *spongioles*, of the roots supply all or most of the plant food for the tree is controverted by Mr. Suel Foster, in the *Western Rural*. He says that while the tree is growing all the roots, the stalk, branches and leaves are at work, and he believes that every part of the root coming in contact with the moist soil absorbs moisture, and that in all this moisture there is plant food.



For the New England Farmer.

THE CRIMSON CLOVER.

I remember seeing in your columns, some years since, a cut of a very handsome species of clover. Can you inform me whether it is more desirable than the ordinary kinds, and if so, how it stands our climate, and where I can obtain the seed? *Maine, March* 29, 1869. J. M. P.

REMARKS.—This clover,—*Trifolium Incarnatum* of the botanists,—has been grown in the Experimental Garden of the Agricultual Department at Washington, and its seeds have been disseminated therefrom. One of our neighbors in Concord, Mass., sowed a little parcel received by him from Washington, on the edge of a corn field. It grew luxuriantly, and was much liked by some horses and colts that got a taste of it. A basketful was gathered for seed, but none of it germinated, and that left in the field was fed so closely that none of it appeared again. It is said to be an Italian plant, and that it has been grown to considerable extent in Scotland for soiling and hay. It has also been cultivated as a border flower in gardens. Cut on the 17th of October, three months after it was sown, it has yielded at the rate of two and a half tons per imperial acre. But we have no further information as to its success in this country.

The plant from which we had the above cut drawn and engraved, was selected from a specimen of the Crimson Clover grown in the garden of J. Mason Everett, of Canton, Mass. The artists have succeeded in producing a good representation,—lacking only the color and fragrance of the flower.

If any of our readers have experimented with this clover and can make a more satisfactory reply to the questions of "J. M. P." they are respectfully requested to do so.

For the New England Farmer.

CONCERNING POTATOES.

BY W. WALBRIDGE, ESQ.

"*Who shall decide when doctors disagree?*"

In spite of the trenchant arguments of Wm. Cobbet, M. P., against the *solanum tuberosum*, it still continues to flourish and to furnish an essential part of the pabulum of our countrymen. In spite of the reasoning of the aforesaid member of parliament, the "disease," the "rust," and the "worm," the potato still lives and comes a welcome guest to all our tables, though it tastes a little more of greenbacks than it used to do.

I have just been reading a little book entitled "one hundred ways to cook potatoes." This is well enough for those who have spoiled their appetites; but for me, I would much rather be told the right way of raising the aforesaid article. "First catch the rabbit," says the old recipe; and this is what I really desire to know how to do. I cannot, with my family, afford to pay thirty-three cents per peck for the esculent in question. I have a little nook of indifferent land and so I think I must attempt to raise it. I am, I confess with shame, but a kind of an amateur soil culturist, nor have I much time or money to expend in testing things experimentally.

Now potatoes we must have, and so I have deliberately come, as I have just now intimated, to the full determination that I will try to grow them. But how? Yesterday I spent entire,—may Heaven forgive me!—and pushed my work almost into the noon of night, consulting the "authorities," and then, with "potato on the brain," retired to bed to dream till break of day of the resolution of the sun, moon, planets, asteroids, fixed stars, comets, and nebulæ into Early Rose potatoes. To-day I have continued the pursuit, and now this evening, March 19, 1869, will sum up the knowledge I have gained for the benefit of amateur potato growers through the world.

Authority No. 1 says: "Plant your potatoes under the manure to ensure a perfect crop." No. 2 tells me to plant them above it. No. 3 advises me to use plaster. No. 4 says, "plaster does no good." No. 5 thinks we should plant quite deep. No. 6 informs me that his do best when planted shallow. No. 7 directs me to use by all means "short manure." No. 8 says "long manure." No. 9 writes: "do not hill them up at all." No. 10 rejoins, "the hills should be quite large." No. 11 affirms that potatoes will not grow in dry land. No. 12 is positive they never can be raised in moist land. No. 13 goes for hills. No. 14 goes for drills. No. 15 recommends planting very early; No. 16 very late. No. 17 maintains that they must be two feet apart; No. 18 that they must be three. No. 19 holds that the potato patch should slope southward, and No. 20 wants a western inclination. No. 21 avers that the potatoes should be cut. No. 22 that they should be planted whole. No. 23 is of the opinion that they should be inserted large end down. No. 24 cries "small end down." No. 25 insists on planting two tubers in a hill, and No. 26 insists on one. No. 27 is quite sure the "Davis seedling" is the best to plant; No. 28 inclines to the "Sebec." No. 29 is loud in praise of the Jackson white; No. 30 knows that it is sure to rot. No. 31 speaks highly of the "Early Rose." No. 32 says it is a "humbug." No. 33,—but here I am at the end of two days' labor,—spring advancing, seed time hastening,—my brain reeling. As soon as I get one potato fact fairly fixed in it, a new authority knocks it out. Though I have studied patiently, as a lawyer, after precedents, there now stands, *horresco referens*, unexamined on the shelves before me, many huge tomes of the National and State agricultural reports, treatises on tuber-culture, the bound volumes of horticultural magazines, and several works in French and German on the subject of gardening generally, and I am beginning to fear that my "one hundred ways of cooking the potato" will be of no service to me at all, unless the NEW ENGLAND FARMER can tell me some sensible way of planting my small nook at the southeast corner of my dwelling with the *solanum tuberosum*.

Brightside, March 19, 1869.

REMARKS. — These thirty-three articles, which seem to have confused your brain and unsettled your nerves so seriously, are all harmonious enough to us. What do potatoes care whether you call them tuberosums or murphys? Whether you put them under or over the manure, long or short, provided they have about what they need? Whether planted in hills or drills? Whether put in early or late, so that they have time to grow? Whether the tuber is small or large, cut or whole, so that a strong germ or eye is used?—But we cannot follow you further. The Italians have a saying that "all roads lead to Rome." Is it not equally true that all these ways of planting lead to potatoes? Instead then of throwing down your books in despair, take up your hoe with courage,—thankful that potatoes will grow on so many kinds of soils, under such a diversity of treatment, and that cultivators are not confined to any procustean mode.

For the New England Farmer.

CARE OF STOCK.---COTSWOLD SHEEP.

The time has come when all kinds of farm stock need the best of care and feed. Stock that has been well fed and sheltered during the winter still needs watch and care. The prevailing opinion of the correspondents of the FARMER seems to be that, to feed meal to milch cows, just before or just after coming in, is likely to produce milk fever. I have known quite a number of cases of milk fever from exposure to rain storms, every one of which proved fatal; but never have known a case produced by high feeding: and I am not much inclined to believe in the doctrine. Although I am aware that feed has much to do in producing milk of suitable quality for the young of all kinds of farm stock, yet I do not believe it produces milk fever.

I have never been able to feed my long-wooled sheep with corn and oats alone without foundering the lambs, and my losses from this cause alone may be counted by scores of dollars. I am now feeding a mixture of one part of corn in the ear, ground with two parts of oats, two of wheat bran, and two of buckwheat bran, with entire success. I have fed my entire flock so far through the winter on clover hay, and they are now in very fine condition. I sold a pair of ewes a few days since which weighed at the depot 185 and 190 pounds.

Clover hay is better adapted to the wants of the sheep than any other kind of hay, but it should be cured in good weather, in the cock, opened to the sun, and made so dry as not to heat in the mow. It should be cut just as it is coming into bloom. Persons intending to invest in raising long wool should make their engagements of sheep in the spring; the stock to be shifted in September or October.

It would be very much to the interest of every producer of wool, both fine and coarse, to market his own clip. The expense of sending it, as soon as shorn, to a reliable commission merchant in Boston, is very trifling. These dealers may be supposed at all times to know the market, and be able to get the full market prices. The demand for long-wooled sheep at the West is at present such as to make the breeding of them very remunerative for years to come. Congress having refused to re-establish the Canadian Reciprocity Treaty has acted in accordance with the wishes of the farming community, which secures beyond a doubt the market for long wooled sheep and combing wool for years to come.

The Cotswold sheep are more liable to stretches than other breeds. This, however, very seldom occurs if they have constant access to water and sufficient exercise. Mr. Daniels of Woodstock, Conn., lately gave me a receipt for its cure which I have had occasion to try, and with entire success. A mixture of oil, either castor or sweet oil, mixed in very strong soap suds, a part of it turned down the throat and a part as an injection, has afforded immediate relief.

I have lately been into Dutchess county, N. Y., among the fancy breeders of Cotswolds, some of which weigh over three hundred pounds and sell for four hundred dollars each for bucks, and ewes two hundred each. These are fed to the highest degree and made very beautiful animals, and consequently sell at very high prices. T. L. HART.

West Cornwall, Conn., April 1, 1869.

For the New England Farmer.

HEAVY WOOL COTSWOLD---PRODUCTION OF SEXES.

I have for years been breeding Cotswolds with a view to compactness of fleece and have succeeded so far with a portion of my flock as to have those that are nearly as well protected from storms as the Merinos. Having succeeded in establishing a good degree of compactness, I have occasionally bred my sheep to bucks of the longest wool that I could find, with very favorable results, having in some instances sheared twelve pounds a head from yearlings. At present prices of combing wool the weight of fleece is a matter that should not be lost sight of; besides weight, the protection a compact fleece gives is of importance so far as the comfort and health of the animal is concerned.

The fashion of sheep, like all other fashions, is subject to changes. Twenty-five years ago the fashion was to have clean heads, or those free from any wool in the forehead. The presence of a tuft in the forehead would have excited suspicion of a cross with the Merino; but now the fashion has changed, and a tuft of wool is, by some whose observation does not extend very far back, considered almost the *standard* of purity.

The subject of producing the different sexes in our domestic animals has been under discussion to some extent for a few years past; and it is a subject of much importance to the breeder. That the different sexes can be in all cases produced at the pleasure of the breeder is doubtless not true; but that this may be secured to a great extent I am very sure. Fifty years since my grandfather said to me, that if it was desirable to have male progeny it could be done by "breeding from old animals." I have observed this for at least fifty years, and have very seldom if ever known it to fail. I once had a pair of buck lambs from a very old sheep; I bred from them one year, and nine out of ten of their lambs were bucks. When obliged to change bucks I am always particular to inquire the age of the sheep which raised the lamb; and I have succeeded in breeding two bucks, whose lambs were nine-tenths ewes, and from all my bucks a large majority of lambs are now ewes. I should prefer a buck bred from a two-year-old ewe, but in no case from one older than three years if it was my wish to have more ewes than bucks. T. L. Hart.

West Cornwall, Conn., March 27, 1869.

SMUT IN WHEAT.

In a late number of the *Prairie Farmer* some inquiry was made as to whether lime is a preventive against smut in wheat. My experience tells me that lime of itself would be of little use were it not combined with the solution of salt. I will give my method of preventing smut, which has never failed:—

Save as much chamber-lye as will thoroughly saturate the quantity of wheat you may wish to sow, then for every ten bushels of wheat, add two ounces of arsenic dissolved in rain water, spread the wheat on a level floor, then take a broom and dip it in the mixture, shaking it over the wheat until there is sufficient to wet the whole. Shovel it over once or twice, until you are satisfied that it is all soaked alike, then sift over it a thin coat of fine slaked lime; shovel over until the lime adheres to all the wheat alike. When it is ready for sowing, should there be occasion to wash the wheat in salt brine for the purpose of cleaning it, the dissolved arsenic may be added to a small quantity of chamber-lye and applied as above, after the salt brine has been thoroughly drained. Do not let the pickled wheat remain in the bags over night. I have tried this several times and have found it to accomplish the desired effect in all cases.—*M. L. Curtis, in Prairie Farmer.*

CORN GROWN FOR FODDER.

A correspondent of the *Country Gentleman* at Prospect Hill, Va., writes as follows:—On June 25th I planted just one-third of an acre, in drills three feet apart. I took my Wethersfield drill, put in the largest seed, and went over each row twice, and then covered with a cultivator. It grew finely. I cultivated it twice with an A harrow, set so as to take only to the middle between the rows, and ran it up and down each row. By so doing I could run very close to the young corn, and kill the weeds and not injure or cover the young plants. I cut it with a briar scythe, and one man could cut as fast as four could bind. This was Sept. 28th. Put it in small stacks, or rather shocks, and let it stand. Commenced feeding it to my horses and mules (5) Nov. 1st, and it lasted them until the 3d of December, and is by far the best fodder I have. I shall put in several acres next year, for it not only yields a very profitable crop for the farm (as the ground was poor,) but it "kills the weeds" most effectually, which is a great point here. I believe that I shall make it a paying crop in money. Fodder is always salable at $10 per stack (ton.) Now I can get four tons on land that will not produce more than ten bushels of corn per acre—giving me $40 per acre, at a much less cost than corn at $10. I shall therefore have $40 for each acre, and allowing $10 for seed, cultivating, gathering, &c., I shall have $30 per acre to buy the best fertilizers that I can get; for that is the only proper mode of using *that* money, and so I can manure my farm without cost, kill the weeds and improve the land at the same time. C. R. M.

A PERCHERON COLT.

Mr. B. F. Ricker, of Brighton, Mass., has sold to T. G. Hadley, Esq., of Galesburg, Ill., a colt two years and nine months old which weighed, with a head-stall and halter, 1510 pounds. The colt was sired by "Conqueror," one of the Percheron horses imported from France in 1863 by the Massachusetts Society for the Promotion of Agriculture. His dam is a well bred mare from Toronto, Can., weighing about 1400 pounds, and is used in one of the noble teams employed about the Cattle Fair at Brighton. Mr. Ricker bargained his colt at *one dollar per pound*, delivered at Chicago; but the agreement was compromised by the payment of $1400 on the delivery at Brighton. Mr. Hadley has also engaged a yearling colt from the same mare, by Green's Hamiltonian, as well as another colt which is expected this season. We also understand that "Conqueror" is now owned in Skowhegan, Maine, and that he has proved all and more than was expected by his importers, in crossing on our native stock. The colts are all powerful animals, handsome, easily handled and excellent roadsters. At the West where heavy teams are wanted to operate agricultural machinery, a larger breed of horses is much needed, and it is believed that an infusion of the Percheron blood will prove particularly beneficial.

PLOUGHS AND PLOUGHING.

Some time in February last we noticed at some length a report of a trial of ploughs, held at Utica, by the New York State Agricultural Society, in September, 1867. What we then said was mostly confined to a brief *history of the plough*,—showing how gradually improvements had been made, and by whom. At present we shall speak of some of the objects to be accomplished by ploughing, and what kind of an implement is best adapted to secure these objects.

Before entering, however, upon the subject matter in hand, we wish to say that the *Mark Lane Express*, published in London, and probably the leading agricultural journal in Europe, speaks in very high terms of Mr. Gould's report. It says, "The report of English judges on the horse-plough trials, instituted by the Royal Agricultural Society of England, at Leicester, last year, extends over six pages of the Society's last number. The table of dynamometrical results of that report is simply incomprehensible, without a guide. Com ared to that under notice (Mr. Gould's) the English report is meagre in the extreme. We invite the editor to study the New York State report; it is clear from it that the Americans *carry out their trials of agricultural implements and machinery thoroughly.* and take great pains to render the history of them interesting and instructive." The *Express* "regrets that no English ploughs competed at these trials."

We have often urged upon the reader the importance of bringing the soil into a healthy, active, mechanical condition. This is certainly next in importance to manuring the soil, if it does not stand equal to it. In a very able review of the report, Mr. Geddes says, two specimens of soil, precisely alike, as determined by chemical analysis, may be and often are quite unlike in their power to produce crops. The committee discuss this subject fully and ably, and from this discussion derive the conclusion that one of the leading objects of ploughing clay or any tenacious soils is to reduce the size of the particles and to pulverize and mix all of them in the most perfect manner. A ton of barn-yard manure, containing 17.4 pound of ammonia, may be spread over a given surface of ground and abundantly supply the plants growing there with ammonia. A ton of coal containing 47.6 pounds of ammonia, spread over an equal surface, will give the growing plants *none.*

"The important question for the farmer to ask is, not so much how much plant nutriment is contained in the soil, but how much is there which is in such a *physical and chemical condition as to be available*" for the support of the growing plant.

Soils that have the greatest amount of capillary porosity, the committee say, will condense the greatest amount of manurial substances on their internal surfaces; will retain them longest, and will give them out most readily to the rootlets of the growing plant. A mass of adhesive clay will absorb but a very slight amount of available manure; but if this same mass is rendered friable by mechanical processes, its power of absorption is amazingly increased. By pulverization the air is admitted to the soil, which becomes the agent of converting the carbon existing in it to carbonic acid, which in its turn renders many substances which were previously useless, very efficient in promoting the growth of plants.

It is clear that the *plough* is the implement to bring the soil into the condition described above; and that is the best plough which will the most completely do this work — other things being equal. The use of the spade for pulverizing the soil is out of the question with us, where wages are so high. The harrow will not do it; that implement *levels*, but does not disintegrate. Use it long enough and it will compact the mellow soil of a field into a surface as hard as that of the highway. The plough is the only effectual and economical tool yet devised to work the soil into its finest particles. To bring the plough into the proper shape to accomplish this, and at the same time have it set squarely on its sole, run even with the power impelling it, and of light draft, has cost an immense amount of thought, labor, and a very large expenditure of money. The mould-board must have the form of the screw, in a considerable degree, in order to twist the furrow-slice into millions of fine particles as it rolls it over and leaves it upside down. The Holbrook ploughs did this so thoroughly that when the furrow was eight or ten inches deep, the most perfect seed-bed was left, without the aid of any other too upon it.

Deep Ploughing.

The next great point aimed at is deep ploughing. The Committee say: "The distance to which the roots of a plant will extend when there is no physical obstruction to their progress through the soil, is far greater than is usually suppposed by those who have not actually witnessed their extension. We have seen the roots of Indian corn extending *seven feet downward;* the roots of lucerne will penetrate fifteen feet; onions will run downward *three* feet where the physical condition of the soil favors the extension of their range. It is obvious that as the nutritive matters in the soil cannot travel to the root, the latter must therefore go to the former: and the further the root extends the greater the amount of food which the plant can obtain, and the greater must be its growth. The roots of plants always develop themselves in the direction of least resistance."

A high degree of pulverization, however, is not the only point to be gained; among others, one is, that a good plough will perfectly turn under all weeds and grass on the surface, where they will rot and be converted into food for the plants we are cultivating.

Several other points were also examined with the greatest care by the committee, and the following are all specially set forth in the report: To promote the germination of seeds. To get clear of stagnant water from the surface. To prevent the refrigeration of the soil by evaporation. To secure the return of the water evaporated by the plant in the form of dew. To destroy the weeds in the soil.

In investigating these, and all other points under consideration, the committee were governed by a set of rules which were carefully drawn up, and which they rigidly observed. A most ingenious and perfectly-working instrument to test the power required to draw the ploughs was constructed by Mr. Henry Waterman, of Hudson, the consulting engineer of the society. Mr. Waterman's dynamometer is in itself a great triumph of inventive genius, and is the only really satisfactery instrument to measure the power expended yet made. The most important points were fully examined, viz:—

1. Pulverizing power.
2. Non-liability to choke in stubble.
3. Lightness of draft, considered in connection with pulverizing power.
4. Ease of holding.
5. Durability.
6. Cheapness.
7. Excellence of mechanical work.
8. Excellence of material.
9. Thorough inversion and burial of weeds.
10. Even distribution of wear.
11. Regularity or trueness of turning and carrying the furrow or sod.

What the society most desired in these tests was, to bring out the best plough for *deep* cultivation, and its large gold medal was offered to the maker of the best plough to cut a furrow one foot deep, that three horses could properly handle. Mr. Webster's plough, which we spoke of in the February article, cut a furrow a foot deep and the slice two feet wide, and required from four to six yoke of oxen. This was not what the society wanted; and it left the question of width to the competitors, except that it must not be less than five inches deep, and three horses must be able to draw it in actual use.

Two ploughs were entered for this premium, both of them, the committee say, "doing the work which was called for." One was from Collins & Co., Hartford, Conn., and the other from F. F. Holbrook, Boston. The Collins plough was of steel, weight 95 pounds. The Holbrook of cast-iron, weight 139 pounds. Both cut furrows 12 inches wide and 12 deep. On ploughing the first furrow, the power required to draw the Collins' plough one yard, was 665 pounds, and the Holbrook 632. On the second furrow, the Collins 654 pounds, and the Holbrook 632. Going through all the points, it was decided that the Holbrook was best in eight points, and the Collins in two, and in one they were equal. Thus Holbrook was awarded the great medal, and the credit of having produced a plough that three horses could draw through land that the committee say was extremely bad to plough, and turn a furrow 12 inches deep and 12 inches wide.

We cannot enter here into any description of the forms of ploughs that will execute such work; all we can do is to mention them so that those interested may find them and examine and test for themselves.

It will be noticed that the two great points with the society were depth and fineness. In a climate like ours, subject to such droughts as have several times occurred within the last ten years, the matter of *deep* ploughing becomes one of great importance to the farmer. It is well illustrated in some observations of Mr. Dalton, of England. He proved that

> "A cubic foot of earth may contain seven inches of water in depth, and that it may part with one-half of this water and not be too dry for supporting vegetation. He used a cylindrical vessel, 10 inches in diameter, three feet deep, filled with gravel, sand, and soil, having a discharge pipe at the bottom, by which to measure the quantity of water that ran off, and which gave perfect drainage,—the top of the soil being covered with grass, the whole buried so that the top was even with the ground, shows that earth that is moderately moist will take up three inches of water without carrying it beyond the point of saturation. This amount had in the preceding dry month been taken up by the plants and evaporated, and, without making the soil too dry, had so drawn upon it that it could imbibe three inches which fell in four days. Land ploughed only 6 inches deep holds only 1½ inches of water, subject to the use of vegetation, if no account is made of water rising up through the hard earth beneath. Ten days of dry weather in June, July or August, will tell injuriously on plants that have only six inches of earth beneath them from which they can draw moisture; but give plants three feet (as in Mr. Dalton's experiment) of mellow earth, and there would be 9 inches in depth of water for the use of these plants—sufficient to mature any crop our farmers raise, ***without one additional shower after the first day of June!***
>
> "Mellow earth holds water, and the larger or deeper the reservoir, the better guaranty against the injurious effects of dry weather?"

BEET SUGAR.

The Department Report for 1867 contains an exhaustive report by the chemist of the Agricultural Department upon the subject of beet sugar. This subject is one of great importance to the farming and commercial interests of this country. About one-third of the sugar now used in Europe is made from beets, and the manufacture is rapidly increasing. In 1865–6 about thirteen millions hundred weight of sugar were made from beets, principally in France and Germany.

Beets for sugar are cultivated as one in a rotation of crops, and an important fact in connection with their culture is that the cake remaining after the juice is pressed out is very valuable as food for stock. It is both nutritious and agreeable to cattle, and they thrive upon it. In those sections in which sugar is made, there has been great improvement in the cultivation, more stock being kept and the quantity of manure being greatly increased.

Factories are established in various places by capitalists, and the beets are furnished by the small farmers in their vicinity, in addition to the large quantities raised upon the farms belonging to the factories.

White sugars, of the very best description, are made at these establishments. It is stated that beets in the northern parts of France and Belgium yield a larger per cent. of sugar than they do in the South of France. This seems to indicate that a very warm climate is not required for successful sugar making from beets. A good supply of rain during the growing season, especially in August and September is required, and something depends upon the varieties used.

There seems no good reason why this branch of industry cannot be undertaken in this country. The climate of a majority of the States would seem to be suited to their growth, and a ready market would be found at home for any quantity produced. Unlike cane sugar, cotton, tobacco, hops, and some other crops, beets do not exhaust the soil without leaving anything to be returned to it. The tops and cake will feed a large amount of stock, and thus increase the fertility of the soil. In Europe much of the labor is done by women, and in this country skilled laborers would not be required to any great extent in the cultivation. One or more establishments have been already commenced in Illinois, where German laborers are employed.

The making of sugar from Sorghum, in this country, has thus far been a failure, although considerable quantities of good syrup or molasses are made.

It is a little more than fifty years since Napoleon started the manufacture of beet sugar. During this period much has been done by chemical investigation and mechanical contrivance, to improve the processes of manufacture.

Having the advantage of European experience and skill, we may start in the business under favorable circumstances.

GRAFTING WAX.—J. J. Thomas recommends one pint linseed oil, six pounds rosin, one pound beeswax, melted together, to be applied warm with a brush, or to be worked with wet hands into a mass and drawn out into ribbons.

From the Hartford Advocate.

THE BLACKSMITH'S PRETTY DAUGHTER.

Why do the horses come always at noon
  To be shod at the blacksmith's shop?
At noon time, when the sun is still,
When the blacksmith is forced against his will
  To rest, and his work to stop?

Just at noon, from his house on the hill,
  A girl with a pail comes thence;
Smiles come on her lips, on her cheeks a glow,
As she sees the horses tied in a row,
  Along by the blacksmith's fence.

Oh, but the blacksmith's daughter is fair!
  And the horses all look at each other,
As much as to say, "Now isn't she sweet?
We know why our masters say that our feet
  Are giving them so much bother."

The bell rings one, and the blacksmith cries,
  "Now, then, for work right away!"
But most of them say that its growing late,
And they really think they'd better wait,
  And come on some other day.

Oh, blacksmith's daughter, your mother, too,
  Was fair when your father sought her!
You're going in the way that she has trod,
You'll be a wife ere those horses are shod—
  Oh, blacksmith's pretty daughter!

NEW PUBLICAITONS.

On Seats and Saddles, Bits and Bitting, and the Prevention and Cure of Restiveness in Horses. By Francis Dwyer, Major of Hussars in the Imperial Austrian Service. Philadelphia: J. B. Lippincott & Co. 1869. Extra cloth, $2. 256 pages.

We are glad to see a book on the subjects of seats, saddles and bits. The "Society for the Prevention of Cruelty to Animals" can scarcely find a more appropriate field for their beneficent action, than that occupied by this volume. The bits that are put into the tender mouth of the horse, the saddles that are put on his sensitive back, and the position and action of the rider, are subjects of sufficient importance to claim the attention and study of the horseman. Though written by a military man, the principles discussed in the text and illustrated by the numerous engravings in this volume, are applicable to the horse on the farm or on the road. The author explains and illustrates the mechanical principles involved not only in the construction of saddles and bits, but also in the frame-work of the horse, or "the machine," as it is termed in the frontispiece. As a specimen of the writer's style, we copy the following from his remarks on bitting:—

"How many horses, especially young ones, are made restive, and become plungers, bolters, or rearers through the intolerable pain occasioned by bits that are wholly unsuited to their mouths, and sometimes fitter for a rhinoceros than so sensitive and delicate an animal as the horse. Many a curb, stringhalt, and spavin are originated by the use, or rather abuse, of bits whose lever power is so excessive that it is impossible to regulate their action, not to mention the very numerous instances in which bits are placed in such a position in the horse's mouth as to act on the animal's head in exactly the opposite direction to that intended by the rider, and thus, in conjunction with the misplaced burden of the rider, assist in throwing down the bearer."

On another page will be found a copy of one of the illustrations of the work.

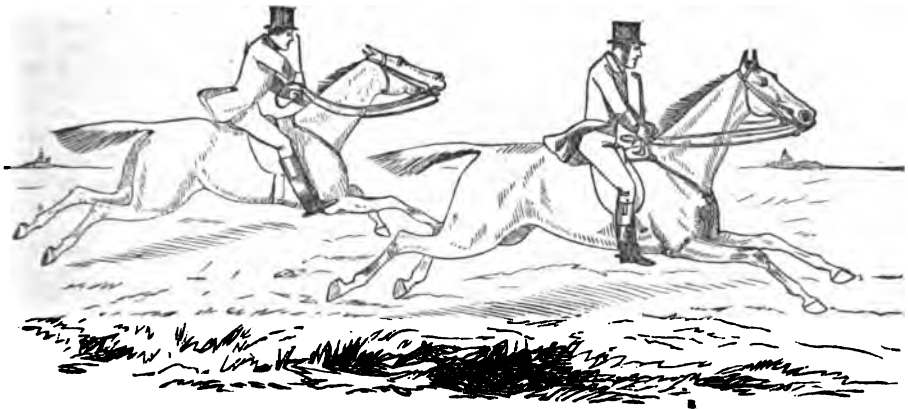
The Ninth Annual Report of the Board of Agriculture of the Province of New Brunswick. Frederickson, 1868.

This is a pamphlet of 152 large pages, giving a list of the members of the Board, with an account of their transactions during the year 1863. We are not a little surprised to learn that this Province does not produce all the food required by its population, and that the breadstuff imported amounted to $1,265,175 in 1861. One reason assigned for this deficiency is that many farmers divide their attention between farming and lumbering; pursuits that do not harmonize. The latter being speculative, often proves precarious. There were fourteen agricultural societies in the Province entitled to grants in 1868. Oats, buckwheat, and potatoes are produced more largely than wheat, barley or corn, —the latter crop being less cultivated than formerly.

The American Farmer, Baltimore, Md., one of our most valuable monthly exchanges, celebrated the fiftieth anniversary of its establishment, on the second day of the present month, by a review of the contents of the first number, printed April 2, 1819. The writings of Wm. Cobbett, Chancellor Livingstone, and Thomas Jefferson, appear to have occupied a large portion of its columns. A detailed statement is given by Mr. Barney, of Port Penn, of his "big oxen." One of them called "Columbus," weighed alive 2962, the other "Delaware," 2688 pounds. Prime pieces were sold at fifty cents per pound. There are several notices of fat hogs copied from a Boston paper. One merchant had purchased 60,000 pounds of very nice pork raised in Vermont and New Hampshire. A hog killed in Easton, Mass., by Cyrus Lathrop, weighed 742 pounds, at one year and eight months old.

The *American Farmer* is three years older than the New England Farmer, and was the first agricultural paper printed in America. There are now more agricultural papers published in the country than the *American Farmer* is years old.

—A correspondent of the *Germantown Telegraph* wishes that he could make the truth vivid to every keeper of cows, that the care of them is something that requires knowledge and painstaking in details. Cows must not be neglected or deprived of sufficient food. Good shelter and abundance of food they must have if we would make them profitable. Evenness of local temperature is a necessity. If the weather is cold or wet without doors, they should be made warm or dry within the stable. If the sun shines too hot, they should have the privilege of shade. When a cow becomes *uncomfortable* the flow of her milk is restrained. A cow will return to you just in proportion as you confer upon her.



THE ART OF RIDING.

Don't be alarmed; this is neither an American "agricultural horse trot," nor an English "steeple-chase." Its purpose is to show how men ride, rather than how horses go. Riding is an art, and must be acquired, like other arts, by study and practice. Occasionally, however, a man seems to be a born rider, and takes to the saddle naturally as some do to music, mechanics or painting. But most of us are not thus gifted, and skill in horsemanship as well as in other professions is acquired by hard study and long continued practice. Our cut is copied from a new work on *Seats and Saddles, Bits and Bitting,* noticed on another page, and is designed to illustrate a bad and good seat, and to enforce the caution given to the rider "not to stick out his rump as if it did not belong to him." We can attempt no synopsis of the principles discussed or the directions given in this volume. We must, however, give the reply of Major Dwyer to the question, "What is a man to sit on? Well, he has two bones in his seat, which we venture, in imitation of German phraseology, to call his 'sitting-bones,' and a third in rear—that on which long ago Lord Monboddo built his celebrated theory, since improved on by Darwin, of the human race having been originally developed from monkeys; this third bone completes, with the other two, a triangular basis for the human seat on horse-back, and, be it said, a much more efficient one than for the theory in question. If the angle of the hip-bone comes to be perpendicular over the sitting-bone at the same side, the rider's weight will rest on this triangular basis, which, being the largest available for the purpose, affords the greatest degree of stability to the seat. If, however, the perpendicular from the hip-bone falls *to the rear* of the sitting-bone, the leg and thigh are immediately thrown forward to the horse's shoulder, the rider's back is converted into the segment of a circle, and his weight sways about unsteadily on the Monboddo corner of the triangle. Finally, if the aforesaid perpendicular fall *in front* of the sitting-bone, the fork-seat is achieved, the thighs come back toward the horse's tail, the rider's body is carried forward by every movement of the animal, because it rests only on two points instead of three, and this may be styled the 'muff school of equestrianism.'"

Agriculture in China.—The Chinamen, who walk over bridges built two thousand years ago, who cultivated the cotton plant centuries before this country was heard of, who fed the silk worm before King Solomon built his throne, have fifty thousand square miles around Shanghai which are called the Garden of China, and which have been tilled by countless generations, and are as productive now as ever.

The area is as large as New York and Pennsylvania combined, and is all meadow land raised but a few feet above the river; lakes, rivers, canals—a complete network of water communication; the land under the highest tilth; three crops a year harvested; population so dense that wherever you look, you see men and women in blue pants and blouse, so numerous that you fancy some fair or muster is coming off, and all hands have turned out for a holiday.—*Western Farmer.*

For the New England Farmer.

AMOUNT OF SEED FOR POTATOES.

This question has been under discussion for years, and the views of growers are apparently as much at variance as when the subject was first broached. When doctors disagree, who shall decide, unless it be the patients? As I could learn nothing satisfactory to my mind from the expressed opinions of my neighbors, I determined to test the matter myself.

One says plant large potatoes whole, another large ones cut, another small ones whole, and so on to the end; but ask any one of them why say you so, and they answer, oh, I planted mine so and had a good crop, or I always plant such ones and I generally have good potatoes. Now it must be a very poor method indeed that will not sometimes produce good results, whether applied to planting potatoes, sowing wheat, or exterminating Canada thistles. But what we want to know is the best method of doing these things, and one that will produce good results uniformly.

The past season I have experimented a little with potatoes in order to ascertain what kind of seed and the quantity to use. The ground was a slaty loam and had been mowed for eighteen years, and was broken up and planted to corn last year, without manure, giving thirty-eight bushels to the acre. Measured off one acre, twenty rods long and eight wide. The land was marked both ways, five rows to the rod, and planted to potatoes, without manure. They were planted April 23, and covered two inches deep. The first eight rows lengthwise of the piece were planted with one piece to the hill, two eyes on a piece. The next eight rows, with two pieces, making four eyes to the hill. The third eight rows three pieces, or six eyes. The fourth, one small potato whole. The fifth, one large potato whole. The first rows had two stalks to the hill in about three-fourths of the hills, the rest only one. The stalks were large and much branched near the ground, but did not cover the ground as much as either of the others. Number two had three to four stalks to the hill, and were nearly as large as those in number one. Number three had four to six stalks to the hill, but they were more slender than either of the former. Number four had from four to ten stalks to the hill, which were very slender, especially where there were more than five stalks in a hill. Number five had from five to eight stalks to the hill, and were more stocky than number four. Dug the ninth, tenth and twelfth of October, and accurately weighed, with the following results:—

	Lbs. large potatoes.	Bu. of 60 lbs.	Lbs. small	Bushels.	Total wgt. large & sm.
No. 1 . .	2460	41	90	1½	2550
No. 2 . .	2880	48	75	1¼	2955
No. 3 . .	2250	38	165	2¾	2145
No. 4 . .	2055	84¼	287	4 47-60	2342
No. 5 . .	2230	87 1-6	180	3	2410
Totaal,	11,905	193 5-12	797	13 17-60	12,702

Omitting fractions, the yield per acre for each plat would be respectively 212, 246, 203, 195, and 200 bushels. It will be seen that four eyes to the hill give the most potatoes, it being thirty-four bushels more to the acre than the next highest; and fifty-one bushels more than the least.

From this experiment I infer that four stalks are as many as ought to be left in a hill. Small potatoes usually have as many eyes as large ones, and consequently when used for seed an excess is often planted.

The largest potatoes were on No. 1 and No. 2; Nos. 3 and 5 were about alike; in No. 4 they were considerably the smallest.

In plat No. 1, I observed that where only one eye grew, the yield was about three-fourths as much as where two came. This suggests another question, viz.: does the amount of potato left with the eye affect the produce? Here is a chance for further experiment, by taking just the eye alone; also the eye with a small piece of the flesh and so increase it until we get the whole potato, with all but one of the eyes taken out,—all to be planted separately and the produce noted.

That four stalks to the hill are better than more, I am satisfied, from the result of another experiment made with a few hills on another piece, where I planted 200 hills, one-half with large and the rest with small potatoes, one in a hill, and whole. One-fourth of each kind was thinned at the first hoeing, to two stalks in the hill; one-fourth to four stalks; one-fourth to six, and the remainder left as they came up. The difference in yield between the large and small seed was but little, but the difference between the hills left to themselves and those thinned out was as great as in the experiment above detailed.

Thus I conclude that it makes but little difference whether we plant just what eyes we wish to stand, or plant more and thin them out, only it is a waste of seed, and like the beet and carrot bed, never get thinned out. I intend to repeat the experiment next season; but my manner of planting the main crop can be inferred from the above. J.

Oak Hill, N. Y., April, 1869.

For the New England Farmer.

FANCY STOCK.

Our experience seems to prove that no thoroughbred animal can be so profitable for farming purposes, as half or quarter bloods; or rather a cross of different breeds is better than any full-blood.

For instance, in sheep, a cross between Merinos and Cotswolds will give good sized mutton and a good superfine quality of wool, much better for practical use in New England than either the full-blooded Merino or Cotswold.

Again, in horses, each different breed has various good points, but are lacking in other desirable ones. A good horse for a farmer should possess all the good points.

So in cattle. Probably it would be impossible to find a single animal of any particular breed, which would show all the good points requisite for use on our New England farms. One of the best milch cows the writer ever knew was a cross of Devon with Native. Another superior one was half Dutch, part Ayrshire and Native. Most people acquainted with the different breeds are aware that the Devons are not great milkers, though the oxen are handsome and good workers, but not so good for beef as the Durhams, while the Durhams are not noted as great milkers. The Dutch are good milkers, but are not so good for fattening, as they do not take on flesh so readily as a more compact breed. And no experienced feeder would think of taking the Jersey's for stall-feeding.

People are often disappointed in new or fancy breeds of cattle or sheep, for the reason that such fancy breeds have been kept in a fancy manner, and often their superiority consists mainly in their having been reared and kept upon the best the land affords, and they usually fall away and dwindle to insignificance when treated as native breeds have been. Many farmers in Vermont and New Hampshire have been sadly disappointed with fancy Merino sheep which have cost them fancy prices. In many cases these sheep have dwindled and died when treated as the Native sheep are usually.

Having examined different herds of superior Durham cattle, owned by noted breeders in Vermont and Canada, I have invariably found upon inquiry that large quantities of grain were fed to such stock the year round; and I am satisfied that in no instance was the owner repaid for his outlay by any cash value received; although the satisfaction of seeing the growth and improvement of such fine animals might repay the man of wealth for his care and expense; and occasionally a slight return is received by the sale of an animal at a fancy price.

In some cases, doubtless, the breeders of fancy cattle may confer a benefit to the country, but usually the parties purchasing such cattle for practical use lose by the operation, for the reason that with common feed they are sure to depreciate. We are aware that it would well pay most farmers to take better care of their stock, and feed better than they do at present; but until they conclude to take fancy care of their animals, they had better not purchase fancy stock of any kind.

CARMOS.

Reading, Mass., Feb. 24, 1869.

REMARKS.—As Mr. J. A. Harwood, of Littleton, Mass., said in his remarks at the Milk Producers' Meeting, at Nashua, we need the thoroughbreds to get the crosses. The remarks of our correspondent as to the superiority of wool for "practical use" from a cross of the Merinos and Cotswolds may be correct so far as certain uses are concerned, and incorrect as respects other uses. Pure Cotswold or Leicester wool we understand possesses certain qualities,—length and gloss,—which are necessary to the production of certain styles of goods; and that these qualities are lost by a cross with the Merinos. Hence if this wool is not grown in the United States it must be obtained from foreign countries. It is generally believed that the wool growers of this country can supply the various grades of wool required by our manufacturers, and in fact they have entered into an agreement with them to do so. It is therefore our duty as well as our interest to ascertain what kinds of wool is required by these manufacturers, as well as to determine which is best for "practical use in New England."

For the New England Farmer.

DISEASE IN SHEEP.

In the FARMER of March 27, friend Nichols of Plymouth, N. H., writes for information about a disease in his flock of sheep and the fatality that attends it. If it is a disease, it must be contagious, for we hear from all quarters, not only in New England, but in the Western States, of unusual mortality among sheep. In this vicinity some farmers have lost half their flocks, and appearances indicate that many more must follow soon.

It has been like rowing against the tide to keep sheep during the past three years; but just as the market prospects begin the brighten up a little, our flocks are dying by thousands. Every farmer is interested in finding a remedy and applying it, to stay this wholesale destruction of property. But in coming to a correct diagnosis of disease, whether in plants, animals or persons, a careful investigation of matters and facts prior to its fatal termination is necessary.

During the war, when wool was high, and sheep raising paid enormous profits, the health and comfort of most all flocks were carefully looked after, and the losses were few by sickness. Then the sheep had the best of hay, a feed of corn once a day, all the roots that were raised, besides oats, shorts, beans, oil meal, &c. What a contrast with their present neglect! I have heard a number of sheep-owners, within two years, say give the sheep meadow hay, and let them die if they will, for there is no profit in them. Many have got entirely discouraged and sold out, losing money by the operation. Some of these men would go half a mile "to kick a sheep."

Perhaps there has been something more than mere neglect to cause sheep to do so badly the past season. Last summer there was an unusual amount of rain, and in July a rust struck the grass, destroying nearly half the nutriment of the hay that was not cut until very late in the season. If enough grain to make up this deficiency in the nutriment of hay had been given, possibly sheep would have done as well as common; but their stomachs may not have been capable of receiving enough of this inferior hay and digesting it, to sustain life and keep the functions of the body in healthy action.

About ten years ago I lost thirty-five sheep out of two hundred and fifty, most of them dying after going out to grass. I was entirely ignorant of the cause, until informed by Mr. Henry Couch, of Salisbury, that it must be the "rot," in which the blood turns into water. For a cure he recommended ashes mixed with salt and sulphur. I gave only five pailfuls, one part sulphur, three of salt, and four of ashes, well mixed. I think this cured them, for none died after using this mixture ten days. The affected sheep did not appear to suffer much, were not sick more than one day, and were mostly in fair flesh. I cut the throat of one, before dying, and got about half a pint of light watery blood, that would not coagulate on cooling. On cutting into the throat immediately after death, no *blood* could be found, only a frothy, slippery substance.

If Mr. Nichols' sheep are in fair flesh, I should think from his description it was the rot that troubled his flocks. It is the best course to keep sheep well,—that is, gaining in flesh, from the time they come to the barn until they go to the pasture again. Give them sulphur enough to kill all the ticks and keep off disease. Those persons that do so, reap twice the profit, and have a conscience devoid of offence. G. F. Quimby.

Warner, N. H., April, 1869.

For the New England Farmer.

YOLK IN MERINO WOOL.

Previous to 1861 and 1862, comparatively little complaint was heard from manufacturers or dealers in regard to the yolkiness of the Merino wool. During the years immediately following, there was great speculation and excitement in relation to wool, and complaints were heard from dealers in regard to the sudden and alarming increase of yolk in the fleeces of Merino sheep, and the prejudice thus excited against this valuable breed still operates to a considerable extent.

It is the object of this paper to inquire whether this sudden increase was artificial or natural, and whether its injurious effects ought still to continue. During the excitement caused by the high prices for wool and sheep, which prevailed during the war, many breeders and speculators resorted to all known expedients to temporarily increase the weight of their fleeces, well knowing that a monster fleece would help sell the animal for a monster price.

In order, then, to obtain a thirty-pound fleece, it was necessary that fifty, sixty or even seventy-five per cent. of it should be yolk, or as some term it, "grease." In order to preserve and increase this yolk, the sheep were housed from rain summer and winter; for water is as fatal to "grease" as it is to "salt and sugar," and the sheep were also fed the year round with the richest of grain. Some jockeys, also, fearing that even with these appliances they should not beat all creation, resorted to outside applications in order to increase the "contraband hue," and drew upon the neighboring merchants for the oil which their fleeces lacked of the desired weights. Sheep of this character, being widely disseminated, became in time to be taken as types of the improved Merino. Their fleeces, also, in due time fell into the hands of the manufacturers, and shrinking, as they naturally would, vastly more than Merino wool was ever known to shrink before, created the prejudice against Merino sheep, which in many localities still exists.

The great decrease in price of wool and sheep has removed all temptation for summer housing or pampering; because it cannot be made to pay, and the Merino flocks of the country to-day, except in rare instances, are bleached by the storms of summer, and are simply well kept in the winter. The fleeces of such flocks are no more oily than they were ten years ago, while the staple has been greatly improved in evenness and fineness as well as in amount of pure wool.

From this plain statement of what every intelligent wool-grower knows to be true, it will be seen that the apparent increase of oily wool during the war was a stimulated and forced product, and not a natural secretion. Consequently the Merino flocks of the country are really more valuable than ever before, for the reason that they yield more wool of a better and more uniform quality than any sheep have ever done before them. E. R. S.

Windsor, Vt., April, 1869.

CULTURE OF THE QUINCE.

In a recent number of the *Country Gentleman,* Mr. N. Ohmer, of Dayton, Ohio, says that about ten years ago he began to turn his attention to the cultivation of fruit, and the then neglected quince he made a specialty, planting three-quarters of an acre at ten feet apart each way. The fourth year after planting he sold quinces enough to pay for the trees, and each year since, with but one failure, he has had good crops increasing in quantity and quality.

At the last Ohio State Fair his quinces took all the premiums for this fruit. The Orange quince is the best that ripens with him. He values Ray's Mammoth on account of its large size, handsome form, beautiful color and good quality. With him the pear quince grows to a good size and ripens after the orange, prolonging the season. He does not recommend the planting of pear quinces extensively.

Mr. Ohmer says that he planted the trees in his first orchard ten feet apart, each way, but the branches have now grown into each other so that it is almost impossible to get through the orchard. He has since practiced and unhesitatingly recommends fifteen feet as near enough to plant the quinces on good soil. The tree is quite handsome when properly pruned by cutting out all interfering limbs within the tree and cutting back such as grow out of proportion. He spades the ground every spring and scatters a peck of coal ashes around each tree. He finds common salt the best manure on the quince and applies about one quart to the ground under each tree after the soil has been spaded and another quart when the quinces are about half grown. Last year he sold three hundred bushels of quinces from his orchard of three quarters of an acre, at $2 50 to $3.00 per bushel. This fact is worth a thousand arguments in favor of planting and cultivating the quince.

NORFOLK COUNTY, MASS.

At the annual meeting of the Agricultural Society of this county, at Dedham, March 31, Hon. Marshall P. Wilder, who has been president of the association for twenty years, and under whose efficient administration the society has been highly prosperous, resigned his office. In his valedictory address, he alludes in fitting terms to many of his associates who have "finished their course." The Norfolk, he informs us, was the first society in the State "to purchase lands, erect a hall and take fees for admission to the gates. It was the first to admit ladies to the rights of membership and to the participation in the festivities of the annual feast. From the Norfolk Society emanated the idea of establishing the Massachusetts Board of Agriculture, now a department of the government, and now working harmoniously with all the other societies. Here, too, originated the first general efforts in behalf of the cause of agricultural education, which have culminated in the establishment of that popular and promising institution, the Massachusetts Agricultural College; and here, also, if I might be permitted to make the record, was conceived the project of the United States Agricultural Society, which, until the late conflict, was exerting a happy influence on the agricultural and political interests of the country."

Resolutions of thanks for his services, and expressive of the hope that his health may be perfectly restored, and his life of usefulness prolonged for the benefit of those public institutions, and those private relations with which he is connected, were adopted by the Society. He was also constituted the first honorary President of the Norfolk Agricultural Society.

The following is the list of officers for 1869:—

President—Hon John S Eldredge of Canton.

Honorary President—Hon. Marshall P. Wilder of Dorchester

Vice Presidents—Hon. Amos A. Lawrence of Brooklyn; Hon. Otis Cary of Foxboro'; Messrs. S W. Richardson of Franklin; E. Tucker of Milton; Henry Grew of Hyde Park; E. Stone of Dedham.

Secretary—H. O. Hildreth of Dedham.

Treasurer—C. C. Churchill of Dedham, and the usual finance and executive committees.

IMPROVEMENT IN VARIETIES OF CORN.—A writer in the *Prairie Farmer* calls attention to improvement in varieties of corn. He says that if as much attention was paid to this subject as is paid to improvement in potatoes and grapes a hundred millions of bushels might be added to the crop on the area now cultivated within three years. The great want is ealier varieties that will obtain their growth before the mid-summer droughts or early frosts. He is now making experiments in this diection, and calls on farmers throughout the country to give their attention to this subject.

MASSACHUSETTS SHORT-HORNS.—Mr. R. Goodman, of Lenox, has sold to W. E. Skinner, Hamburgh, N. J., the bull *Woodstock*, got by 2d Earl of Carlisle, 2804, out of Laura 5th by Brother Jonathan 2d, 2570; heifers, *Whiteface*, by Rosalie's Oxford, 6138, dam Orange Flower by Red Rover, 2109; and *Hybla*, by Rob Roy, 6128, dam Eva 3d, by Red Duke 4295.

The *Country Gentleman* also notices a recent importation of choice Cotswold Sheep at the farm of John D. Wing, Washington, Duchess Co., N. Y.

AGRICULTURAL ITEMS.

—As there were early frosts last fall, it will be well to take a little extra pains to secure corn for seed that was not frost bitten.

—Sugar beet grown in South Jersey has been found to contain twice as much sugar as roots grown in Massachusetts.

—Rotten chips, decayed leaves, muck, hardwood ashes, lime, and old, well-rotted barn manure are the best fertilizers for orchards.

—One of the aims in farming should be to produce, as far as possible, everything you consume—to buy nothing you can raise yourself.

—In the construction of the Illinois Central railroad, from Chicago to Cairo, a distance of 365 miles, but one good gravel bank was found.

—Don't keep a calf tied or shut up in some damp, dark corner, with hardly room enough to lie down. He needs the sunshine as much as hens, or the plants in the garden.

—Mr. Greeley does not seem satisfied that his $100 prize for the best grape was awarded to the Concord. At a public meeting in New York, he recently said, "all my money did, was to advertise a grape already known; thus improvement was checked, not stimulated. I am a little discouraged by the result, and do not propose to offer another bank note for a plate of common grapes."

—A correspondent writes to the NEW ENGLAND FARMER that people have come to church in sleighs eighteen Sundays in succession, in Concord, N. H., this winter.

—After losing one hundred chickens, a correspondent of the *Country Gentleman* fed them with the scales that fall from heated iron around a blacksmith's anvil, and the remainder were cured and remain healthy.

—A correspondent of the *Gardener's Monthly* wishing to remove the old putty from a large number of sashes stacked them all in one pile and smothered the whole in stable manure, just fit to make hot beds, and after steaming them a few days found the putty soft and very easily removed.

—In the course of an essay headed, "No perfect Animal without perfect Care," a correspondent of the *Country Gentleman* says, every time a colt, a calf or other young animal feels miserable, hungry, cold or tired, a mark to a certain extent will be left on the general figure.

—A committee of Boston ladies has appeared before a Committee of the Massachusetts Horticultural Society, and consulted with them on a plan for a school of gardening for women. They want 100 acres near a good market, and propose to make the school industrial and self-supporting.

—A gentleman of Brookline, Mass., informs us that a neighbor of his, Mr. E. F. Bacon, has a coarse wool sheep that dropped a lamb February 20, and on the 13th of March, another lamb, both of which she owns, and is apparently proud of, as both are likely thriving lambs.

—Col. Mallet, Professor of applied chemistry in the University of Virginia, says the droppings of a cow for a year are worth as much as $30 worth of guano; and a successful dairyman and farmer in Connecticut reckons his stable manure as worth $36 a year for each animal.

—The tea plant is in successful cultivation some ten miles from Knoxville, on the farm of Capt. Jas. Campbell, where it has been grown for about ten years. It is said that East Tennessee tea drinkers can easily raise their own tea with very little cost or trouble. The plant is a deep evergreen shrub, and grows about five feet high. It is hardy, and needs no protection from frost.

—Mr. Meehan, of the *Gardener's Monthly* is very positive as to the uselessness of attempting to preserve the tap-root in transplanting. He says "the shortening of a tap-root is of no more injury to a tree than the shortening of the finger nails to a man. This matter was settled by Senebier and others over a hundred years ago. Their experiments we have repeated; and no intelligent man teaches any other doctrine."

EXTRACTS AND REPLIES.

BARN-ITCH.—BEST BREED OF CATTLE.

Can you or any of your numerous readers inform me, through the FARMER, of a remedy for barn-itch? It is very prevalent in this vicinity, there being hardly a stock of cattle free from it. I have tried the usual remedies,—salt, grease, sulphur, &c., but with little or no benefit.

What is the best breed of thoroughbred stock, all things considered, for the farmers in this part of Maine? ALVIN B. JORDAN.

E. Raymond, Me., 1869.

REMARKS.—During their winter confinement to the barn, our stock are in a more or less artificial condition. They are crowded into stables which are sometimes too open for comfort, and sometimes too close for health. The droppings of animals, both solid and liquid,—not to speak of the exhalations of their lungs and skin,—emit a vast amount of gases of different kinds, which are unfit for respiration. Then again they are obliged to subsist on dry fodder,—fodder that owing to an unfavorable season, one too wet or too dry, may have been imperfectly grown, or over-ripe, or struck with rust, or it may have been imperfectly cured in the field, or have become mouldy in the mow. The ammonia of the stable may escape by the ventilator, if your barn has one, but what becomes of the carbonic and sulphurous gases, which are heavier than the air? The effect of bad air and poor food on men when crowded into prison ships and Andersonvilles is well known. Scurvy, lice, and the most fearful diseases are the results. If our animals could talk or write, perhaps we should better understand the diseases to which they are subject, and should watch more carefully for the causes which produce them. The old "conjurer" who applied a poultice to the axe that cut the man's foot, may not have been so crazy after all. And we are not sure that it may not be good advice to you and your neighbors, who are troubled with the "barn-itch," to anoint your stables and your fodder, instead of your animals, not exactly with "salt, grease and sulphur," but with a few grains of careful investigation, to be "well shaken before taken."

In submitting your inquiry for a remedy for the barn-itch to the readers of the FARMER, we wish, therefore, to add the question, What is the barn-itch, and what causes it?

The books tell us that the itch in man, the scab in sheep, and the mange in horses and pigs are caused by insects. The microscope helped them to this discovery, and its use appears to be developing a great many new facts in relation to diseases of men and animals. But out West a fatal disease, known as the Mad-itch is supposed to be caused by cattle eating the indigestible chunkings of the hogs that run with the "steers" which are fed on corn in the bundle or stook.

There are so many circumstances to be considered in the selection of a breed of cattle for a particular locality, that one must be governed considerably by them in making a choice. If pastures are rich and extensive, they are adapted to large cattle, such as Short-horns, but if pastures are rocky, subject somewhat to drought, and not very rich, some smaller and perhaps more hardy breed will do better upon them,—such as the Ayrshires. Then other things must be considered. What are cows wanted for,—to supply milk for the dairy or for the milkman's cart? If for making butter for the family, merely, the Jersey would be preferred by most persons, as the quality of the milk is very rich.

BURSAL SWELLING.

I have a valuable cow that has a large bunch on the knee of the fore leg. It came this winter, is quite soft, but does not appear sore. The cow is not lame. There are a number of such cases in this section. I can find no one that does anything for them. Can I get any information through your paper? J. H. Bourne.

Groton Centre, Mass., 1869.

Remarks.—This is a bursal swelling. There are certain little bags called bursæ connected with the membrane lining the cavities of joints, whose office it is to secrete a fluid for lubricating the surfaces of the joints. These bursæ are often injured by blows, or more generally by the animal falling and striking the edges of the joints upon some hard substance, as the head of a nail, a stone or the sharp corner of a timber. Inflammation follows, and a large quantity of fluid is secreted, which collects and enlarges the bag, forming the tumors referred to. A neighbor of ours has had several such cases. He opens them at the most depending part and presses out the fluid, and they have always done well. He has sometimes opened the same tumors more than once. The opening should be followed by a compress and bandage, carefully applied.

MANAGEMENT OF COWS AND OTHER STOCK.

As considerable has been said of the management of kicking cows I will give the result of my experience in the matter, the practical character of which may be inferred from the fact that in 1818, at the age of nine years, I commenced my apprenticeship by being "put out" to work on a farm, and from that time until I was twenty-one years of age I was employed on a farm where dairies were kept to greater or less extent. Since commencing business for myself I have kept cows varying in number up to forty a year. Consequently I have bought, sold, raised and trained a great many. I have always found gentle usage the best method to make them stand still to be milked or to do anything else I expect of them. My cattle, sheep, and horses will come to meet me in the pasture or field, after I have had them a short time. If I have one that has been abused and is afraid, I take something in my pocket to entice it to me, and in a short time it will become tame and kind as others. Sometimes, when I have been in a hurry and out of patience, I have tied up a cow and given her blows, but in nearly every case it was wrong, and I was sorry I had done it. I never have used ropes or chains or harsh means to accomplish milking. I have done it by using the cows well. You can have almost any animal kind and do your bidding by kind treatment, and without striking or kicking, or scolding. There are occasional exceptions. I have had cows that I could not make kind and gentle by good usage. But instead of attempting to "break them" by rough handling I soon sell or make beef of them. I hold that all beasts that do our labor must obey our commands, but they can be made to do it in almost all cases by using them well. The ox is the noblest animal we have. With what a hearty good will he labors, when properly used. I have been often pained to see him abused. If you are raising calves for the dairy, learn them when young to be gentle. Handle them carefully; make them like you and they never will forget it. When a heifer has her first calf is the time to form her habits. On such occasions they are sometimes wild and half crazed. At that time in particular be gentle, kind and soothing to them. Every farmer should so treat his stock that they will seek rather than shun his company. I find it very convenient when I go into the pasture for my horse for him to meet me half way. O. Foster.

Tunbridge, Vt., March, 1869.

REMEDY FOR WORMS IN HORSES, &c.

We noticed in the Farmer, issued Jan. 2, 1869, an article under the caption of "Remedy for Intestinal Worms," taken from the *Boston Journal of Chemistry*, stating on the authority of "Mr. E. C. Haserick of Lake Village, N. H.," how they may be cured, and having a horse at that time very badly affected by them, we immediately determined to try the remedy as therein prescribed. The next day we applied the lard as directed, and the very next succeeding day, took the animal out to use on the road. To our surprise, on seeing the animal dung, not one live worm was to be seen, but one or two dead on the inside of sphincter; whereas, before the application of the lard, we noticed on seeing the animal dung, the internal orifice was literally covered with them, so far as visible, and also great numbers in the fæces. We continued this process one week, as directed, and pronounce the animal cured, as we suppose. Now if this theory should prove to be correct, then indeed it will be no longer a theory, but a matter of fact, and facts are stubborn things. This is but a single trial with me, and may need further confirmation; but if it should prove to be a remedy, as it seems likely it may, for intestinal worms in horses, and also in the human species, as stated in the article referred to, it must be considered as a very simple and efficient one for a trouble at once extremely annoying if not serious, and therefore we do consider it our duty to make the facts as above stated known to the public, as desired in the article referred to. Jona. Farnham.

South Uxbridge, Mass., March 12, 1869.

SINGULAR DISEASE OF A PIG.—CANKER WORM.

I purchased a pair of pigs in Manchester, N. H., last fall; sold the sow and kept the boar. Late in the fall and early in the winter my pig did not eat well, had the scours, and grew poor. After a time I succeeded in getting him so that he eat raw turnips. But although kept in a clean pen, with a dry bed of India wheat hulls and shavings, he became covered with a black scab or scurf, carried his head on one side much of the time, and acted as though his ears itched, or head ached. I washed him with soap suds and occasionally buttermilk, and scrubbed him with a cob all over, not forgetting the issues, with apparently good effect, but all at once he refused all food and in four days died, having lived till March 3. At the time of his death his body was purple nearly all over. During the winter his breathing was like a person with the phthistic. The scurf or scab may have been caused by a fever. Have you or any of your readers a name and remedy for the disease?

As a change in the breed of hogs I have obtained a Red Rock sow, from which I hope to raise pigs. I think them the best kind of hogs in my knowledge. They are of a light red color, large, well-proportioned, hardy, and make the whitest pork I ever saw and the thinnest rind. FRANK.

Woodstock, Vt., March 22, 1869.

REMARKS.—The difficulty in the breathing of your hog would naturally suggest the probability of some disease of the lungs or heart. Did you examine them? The great variety of ills to which swine have been subject of late has very justly alarmed not only farmers but those who use pork, as well as baffled the skill of veterinary surgeons. Sulphur, coal, ashes, &c., are recommended as preventives of disease.

Our correspondent also replies to Mr. Robert's inquiry for information as to the best means of preventing the ravages of the canker worm, by saying that plugging the trees with sulphur, "as soon as they commence to build their nests," will cause them to disappear in less than a week, or such has been his experience. The remedy is an old one, in which we have no faith; and as the canker worm builds no nests, we conclude that "Frank" is, most happily, unacquainted with its habits.

HORSE WITH POOR APPETITE.—ROSE BUGS ON GRAPES.

Will you, or any of your readers, inform me through the FARMER, what is good to give a horse to make him eat heartily? Also, how to prevent rose bugs from eating my plants, especially the grape leaves and blossoms?

A CONSTANT READER.

Apponaug, R. I., April, 1869.

REMARKS.—A healthy horse will eat heartily if he is worked moderately, fed regularly with a suitable amount of food, and stabled so as to be warm and comfortable in other respects. We have never known a horse that was well refuse its food under such circumstances. If he does refuse to eat, he is probably sick, and the first thing to do is to find what that sickness is.

Rose bugs are a plague. We have more than once had a realizing sense of it. Have tried syringing the plants with whale oil soap and other things, but never found much relief except in *fingering* them. Pick them off and throw them into water, hot or cold. Get the women and children to assist you; follow it up thoroughly for a few days, and you will save the crop, if your vineyard is not too extensive. We know of no other way of doing it.

DISEASE AMONG SHOATS.

I have a horse-barn 26 by 40 feet, a shed under the whole building high enough for cattle; two-thirds of one side next to the yard open. A few years ago I put under the same, six shoats. They nested as they chose on the manure heap from the stable above.

It was in warm weather, and the open space was closed only by bars, so there was plenty of ventilation. They were fed with sour milk from the dairy. After thriving nicely for two or three months, one of them, eating well in the morning, was dead at noon. The second day after, one was heard to squeal out suddenly as if in great distress, was looked after, and was dead in a few minutes.

The swine were immediately removed and there were no more symptoms of disease.

One year ago last summer we put our swine into the same place, and experienced a result similar to that related above.

What is the disease, and what the cause? Can we safely keep shoats under the horse-barn and suffer them to lie on the manure heap? S. P. L.

Washington Co., Vt, 1869.

COVERING FOR FLAT ROOFS.

Will you please inform me of the best roofing for a flat roofed building? I have a barn 50 by 84 feet, the roof pitches three feet each way from the centre. It was formerly covered with "New England Roofing." I do not like it, and wish to ascertain the best thing to cover it with. I used to see advertised in your paper the Plastic Slate Roofing. What has become of it, and how does it work?

Milton, Vt., Feb. 27, 1869. A. M. AUSTIN.

REMARKS.—This matter of roofing is one of much importance to farmers. In this climate a good covering to buildings is very necessary, and is becoming quite expensive. Some such material as the Plastic Slate is claimed to be is so desirable that, notwithstanding the failures that have been reported, we still hope that when its preparation and use have become a trade, it will prove a success. We do not think it advisable for those not acquainted with its use to attempt to apply it. Plastering the walls of a house is theoretically a simple operation, but practically it is a difficult job for the inexperienced. We understand that Mr. Geo. Holland, of Rutland, Vt., has operated to a considerable extent in that vicinity with the plastic slate, and perhaps he would reply to any questions you wish to ask.

SCRATCHES ON HORSES.

I have cured bad cases of this disease by applying to the affected parts common whale lamp oil, and rubbing it in until the scabs soften and come off; then keep the parts moist with the oil until they get well, which they usually do in a few days. AMOS MELVIN.

Concord, Mass., March 22, 1869.

REMARKS.—Alexander Crozier, of Fletcher, Vt., writes to us that he has treated scratches for thirty years by paring and greasing the castors or issues on the leg, without any application to the sores, using his horses as usual meantime, and has always succeeded in effecting a cure.

DEPTH OF TAPPING MAPLE TREES.

In your paper of April 3, G. F. says that he gets as much sap by boring three-fourths of an inch as by boring three or four inches deep. Can he raise as much corn on half an acre as he can on six times that amount of ground? If he cannot, will he tell me how he can get the sap without boring to it. My father has worked at sugaring some sixty years. About twenty five years ago he let out his sugar lot to a man who thought one inch was as good as more. He wanted father to help him about tapping the trees, as the sap started in a hurry. Father bored from two to three inches deep; the other man one and a half or two inches. When he came to gather the sap he found that there was considerable more sap from the trees bored the deepest, but he could not tell the cause of it. For the last twenty years I have worked in the sugar lot, and am satisfied that three or four inches is better than one inch; a large amount of sap is what we want; and my trees heal up as soon as those of my neighbors who do not bore more than half as deep as I do. Farmer.

Wallingford, Vt., April, 1869.

WARTS.

How shall I cure the warts on the teats of a nice heifer, expected to come in the first of June?

Tuftonboro', Me., 1869. J. B. B.

Remarks.—As nothing is made in vain, we presume warts have some "mission" in this world, and when that mission is performed they disappear, with or without doctoring. Hence perhaps the popularity of many of our favorite wart prescriptions, applied just as they were ready to depart. Many kinds of caustics, such as the various forms of nitre, vitriol, &c., are used. An ointment of equal parts of tar, sulphur and lard, melted and stirred till cold, was recommended by a correspondent of the Farmer, a few years since, for the removal of warts and the cure of barn itch. Small warts may be removed by working them loose from the skin, with or without the use of caustics or a little spirits of turpentine, and clipping them off, or rather out by the roots, with a pair of scissors. Larger ones are removed by tying a hard string around them. One lady—there are no women, now-a-days—who has milked cows for many years, said she always cured the warts on her cows by rubbing and working them with her finger wet with spittle, but she told us not to print it, as folks would laugh at us. The warts should be cleared off in time to heal over before you want to milk your heifer.

THE ONION WORM.

Not long since I noticed in the Farmer an inquiry as to how much air-slacked lime should be applied to a common paper of onion seed to kill the onion weevil or maggot. I can answer that no amount of lime will do it. The weevil is the offspring of a fly, about one-half inch long, light colored, with transparent wings. It performs its work mostly between sunset and sunrise. I have seen a few at work very early in the morning and occasionally one or two near the middle of the day. Lime in sufficient quantity may be applied to prevent the fly from depositing its eggs, which it deposits in the earth, touching the bottom of the onion. My way is when I weed my onions to cut up the weeds between the rows and remove them with all the earth I loosen; then with my fingers I remove the earth below to the bottom of the onion, but not disturbing the roots, and have never been troubled with the maggot. For an experiment I have for several seasons left a few on one end of the bed without removing the earth. These have always been destroyed by the maggot, while those properly cared for were not touched.

East Montpelier, Vt., 1869. An Old Man.

Remarks.—We have delayed the publication of the foregoing a few weeks for the purpose of bringing it before our readers more seasonably. We hope to hear again from our correspondent, and will assure him that the suggestions of old men are highly prized by the editors and readers of the Farmer.

FOOT ROT IN SHEEP.

Mr. Editor:—As the season of the year is approaching that this difficulty commences anew to trouble sheep, I beg leave to express a few thoughts on the subject. Though the disease may have been prevalent the previous year, it does not much affect a flock during cold weather, otherwise than to reduce to some extent the general condition of the sheep that have the infection in their blood. I take the ground that the disease is general, and that it affects the condition of the blood and of the whole system of the animal. As warm weather approaches the latent disease manifests itself in inflammation and suppuration of the feet. But as the disease develops itself locally, its treatment is necessarily local. It may still be a good idea to doctor their blood with sulphur, &c.

The disease should be attended to in season, and as soon as any symptoms of lameness are observed. Farmers are too apt to delay their treatment, and to entrust it to incompetent persons,—hired men or boys who have neither knowledge nor interest in the matter. The principal secret of curing is the thorough use of a sharp knife, followed by the application of some one of the various preparations which have often been recommended, and most of which are efficient if properly administered.

It is not pleasant to know that your sheep are diseased and that the treatment is attended with some little trouble and expense. But there is no occasion for the alarm and discouragement which many have evinced in reference to it, and which have led some farmers to say, "*I can't keep sheep, they all die with foot rot.*"

Many suppose the disease is communicated by the feet of the animal coming in contact with the poisonous virus left on the ground by other infected sheep. I doubt the correctness of this opinion. From more than thirty years' observation, I am satisfied that the disease is communicated by exhalations from the body and lungs of the sheep. But however contracted, I assert with confidence that the disease *can be cured*, and that the process, as the jugglers say of their tricks, is easy enough when you once know how.

I would earnestly advise my wool growing brethren not to be discouraged by the appearance of this disease among their flocks. With proper care and treatment it may be cured, and from my experience I should value an infected sheep or flock much higher than many farmers would. Sheep growing is an interest of too much importance to be abandoned. Let us secure the hardiest breeds, and learn the means of preserving their health, and of curing their diseases. Fortune favors the brave, and our turn for profit on our flocks will come before long. Cure up the sheep! Cure them early, and cure them often, if they need it! T. S. F.

Felchville, Vt., April 10, 1869.

Remarks.—Our correspondent differs from "the books" in some of his views. A veterinary surgeon, a graduate of the Royal College at Berlin, Prussia, and late Veterinary Surgeon-in-Chief of the United States Army, and who declares that he "is not only conversant with the home and foreign literature on the subject, but has acquired an extensive experience by long continued, assiduous study and the practice of many years," has just published a book on "The Diseases of Sheep." Dr. Clok, for that is the name of the author, says: "Since the foot rot is a *purely local disease*, a general treatment and internal remedies are wholly useless and should be dispensed with. Good and copious food, and perhaps from time to time salt licks mixed with wormwood, oil of turpentine, tar, &c., are recommended." He also says, "foot-rot is very highly contagious, as has been determined with certainty by numerous observations and experiments, made by inoculating the secretion. No preventive is known, because the disease arises solely from contagion. The progress of the contagion is facilitated by wet summers, or by the sheep standing closely together on warm dung in a stable. Cold and dry weather retard the progress of the epidemic." But still the line of distinction between a general and a local disease, like that between long wool and fine wool sheep, may be less easily recognized in practice than in theory. There is such a wonderful sympathy between the different parts of the animal system, that when one suffers all others may be more or less affected.

But perhaps as the subject of the foot rot is now up, and Dr. Clok's book is open at that subject, it may be well to give some further account of his views, especially as he claims to have been very successful in its treatment, and believes, with "T. S. F." that the disease will nearly always yield to a proper treatment.

He recognizes two forms of the disease, which he calls The Mild Form, and Malignant Foot Rot. The latter is the usual form in this country. We have not space for his distinctions between the two. The disease is peculiar to the Spanish sheep exported to other countries, but is not known in Spain, the native country of the Merino.

"If the foot rot has broken out among a flock of sheep, it is of the utmost importance to separate the healthy sheep from the sick, in order to prevent as much as possible the spread of the disease. All sheep which are lame, and in which the disease is unmistakably present, should be removed.

Experience has made us acquainted with a large number of remedies, by means of which foot rot may be cured. The reputation which any one of them may have acquired above the others seems to be based more on the manner of its application than on its superior curative properties. The medicine is of secondary importance, the chief point being the surgical, manual operation.

The only aim of the treatment being to lay bare the diseased, suppurating surfaces, and to destroy the infectious matter on them, the remedy which accomplishes this with the least possible disagreeable secondary effects is evidently the best.

For this purpose chloride of lime (bleaching salt) is without exception the best, because it destroys the infectious matter of the foot rot, like all other animal contagions, in a wonderfully rapid and certain manner. I myself cured nine large flocks in different places so rapidly and easily by its use that I was surprised. No other remedy had before afforded me such good results.

After removing all the sick sheep from the flock, it is possible and even probable that some of the remaining ones are already infected, although they do not show the disease, and that some of the virus adheres to their hoofs. This virus is destroyed by chloride of lime in the following way: A crib or long trough is filled to the height of six inches with cold water, into which one pound of chloride of lime is poured for every pail of water. The suspected sheep are forced to go through the water in it, which can easily be done. If the hoofs of the sheep are very dirty, they should first be driven through water or dry straw. They are then turned out to pasture, which must be as dry as possible, rich in grass and not too distant. If possible they should be kept in the open air, far enough away from the others. The flock should be inspected every third day, and if a sick sheep is found it should be immediately put with the other patients.

The sick sheep are treated as follows: It is important to remove immediately all separated and loose horn with a narrow, sharp knife; for it is evident that the remedy, which is to destroy the virus and cure the disease, cannot act as long as the suppurating surfaces are covered. This cutting is therefore the principal thing, and the success of the treatment depends on the complete and proper performance of the operation. The bad repute into which some remedies have fallen is due in a great measure to the method of their application.

A knowledge of the anatomy of the sheep's hoof will prevent the abuse of the knife. It is proper in all cases to pare down the sick hoof considerably at the toe and external wall, because it can then be more easily examined, and it does not touch the ground so forcibly when the animal is walking as when it is larger than the healthy one.

Every hidden channel which may be present should be sounded, opened and laid bare. If the wound becomes covered with blood during the operation, as is commonly the case, it should be frequently dried with tow. If a single diseased place remain from which the horn is not removed, a cure cannot be expected. After cutting away the whole or a part of the horny capsule, it is always necessary to apply a bandage to protect the hoof from dangerous external irritation. After applying chloride of lime to the surfaces as above, the cleft is filled with tow whose ends are twisted into a small cord and fastened around the pastern joint. This forms a soft and tightly-fitting bandage.

The diseased hoofs are inspected daily, covered with chloride of lime, and bandaged anew if necessary. If a diseased spot is discovered which escaped notice before, the knife must be applied, and not unfrequently a portion of the newly-formed horn again removed. Generally two or three applications are sufficient for a cure."

We have seen somewhere a statement that a couple of boards placed on a saw horse and fastened to its sides, in the form of the letter V, makes a convenient bed for a sheep to rest in, back down, while operating on its feet.

SETTING OUT FOREST TREES.

I am somewhat interested in setting out a row of forest trees by the roadside, and propose to set a number of Shellbarks which can be found in some of our fields and pastures. There is some authority for believing that it will be difficult to make them live, and finding no one who can speak from actual experience, I have concluded to ask your advice. What is your experience? Will you, or some readers, give their information as early as possible, as the time for setting trees will soon be along, and oblige a subscriber. CROCUS.

Hopkinton, Mass., March 25, 1869.

REMARKS.—The shellbark and common chestnut are among the trees most difficult to transplant and make live. We have tried the shellbark repeatedly, but have had very little success. Both these varieties have long tap-roots, and they seem to be the ones upon which the tree principally depends. In taking up a shellbark you will find very few small roots, and so with the chestnut. If trees are selected from pastures, the tap root must be preserved in its whole length, if possible. We think it would be cheaper to purchase the trees from nurserymen who have prepared them on purpose for transplanting.

PRUNING APPLE TREES.

Much has been said and written by orchardists in regard to the best months for pruning fruit trees. Some recommend doing it just as the frost is leaving the ground, and before the buds burst; some while the trees are in bloom; while others contend that fall is decidedly preferable. From more than twenty years' observation I have become fully satisfied that no season of the year is so objectionable as the spring, when the buds are expanding, and the sap thin and in full flow; the sap is quite injurious as it oozes out, and causes the wound to assume a dark, unhealthy appearance, which is a sure omen of decay.

Every season has its advantages as well as disadvantages, but none is preferable in my opinion to summer, when the days are the longest. The sap then is not so thin and watery as in the spring, and consequently less liable to flow out, and wounds heal much more rapidly. I am of the opinion that very light pruning is much preferable to heavy for the health of the tree, and even none at all I should prefer, rather than to kill trees by inches, as some do by heavy pruning. But let pruning be done when it may, I think much benefit is derived from applying a coating of cement to the wound to exclude the air and prevent its cracking.

My grandfather told me when he was alive, he had tried various kinds, and found nothing more economical than to melt four pounds of rosin in one pint of linseed oil, and apply warm with an old moderately stiff paint brush. I shall be very happy to hear from others upon this subject through the FARMER. A. C., JR.

Bethel, Me., March 28, 1869.

REMARKS.—We agree, mainly, with the writer of the above remarks, and hope his suggestions will be considered. Without understanding something of the nature and habits of the tree, we shall rarely judge correctly of what is best to do for it. It certainly will not answer to allow it to take its own course. What shall we do? Study the tree and work upon it according to the knowledge we gain; learn when the sap does not flow freely and then prune if the tree needs it. That will be in midsummer, and in autumn after the leaves have fallen. More orchards are injured by untimely pruning than by any other cause.

ASHES AND SAND FOR BORERS AND MICE.

About sixteen years ago, I set a few apple trees, with little expectation that they would amount to much, for nearly all fruit trees in this section were badly infested with borers. Having seen a recommendation to use sand as a preventive for borers, I concluded to try it, and having some ashes on hand, mixed them at the rate of two parts sand and one part ashes, thinking the ashes would be an improvement, and put a mound of the mixture from six to ten inches high about the trunks of the trees in the spring, leaving it till September, when I spread it, that the bark might harden before winter. My trees have been thrifty and have made a good growth. I have never been troubled by mice, but should think banking the trees with the same mixture just before the ground closes up for winter would be a good preventive and not injure the trees. I should suppose any thinking farmer would be careful about putting strong alkaline or other similar substances in large quantities directly against a tree or other growing plant.

WENDELL.

South Randolph, Mass., March, 1869.

NORWAY OATS.—SWEET RUSSIAN TURNIPS.

In the spring of 1867, I sowed one pint of Norways on ordinary ground,—the product was one bushel. Last spring I sowed thirty quarts on half an acre of ground, in fair condition, but dry. On one and a half acres of similar ground I sowed nearly five bushels of the variety known as the Potato Oats. The product of Norway was twenty-one bushels, of the Potato Oats forty bushels. Weight of the former thirty pounds; of the latter twenty-eight pounds. The weight of the old common variety being twenty-six pounds, or nearly two pounds lighter. They all suffered severely from drought. Hence the light weight and small crop. As far as I have been able to learn, all who have tried the Norway oats in this vicinity, with perhaps one exception, are pleased with them. In this exceptional case, sixteen quarts were sown on half an acre of very dry ground. The product was about twelve bushels. I am inclined to the opinion that if as much more seed had been sown the result would have been satisfactory.

Can any of your correspondents inform us where the Sweet Russian Turnip seed can be obtained?

WILLIAM BURBANK.

Bloomfield, Essex Co., Vt., March 18, 1869.

SCRATCHES—WARTS—HORN AIL.

I have lately cured a case of scratches or grease on a horse, after a large number of remedies had been tried without success, by four applications of white lead and linseed oil.

For some twenty-five years past I have kept a little spirits of turpentine in a pint flask, with a small quill through the cork, by which I can readily apply as small a quantity as I desire. By three applications to a very large wart on one of my heifers, I was able to remove it in ten days without drawing blood. Small ones are removed with less trouble. In case of horn distemper, I think it is beneficial to put a little spirits of turpentine on the creature's head about the horns. I would as soon bore my own skull with a gimlet for the headache, as a creature's horns for the horn ail. In the nose of the animal, nature has provided a channel for all discharges from the head. W. F. Loomis.

Langdon, N. H., March 13, 1869.

ONION SETS.

I want to raise a few onion sets. Can you or some of your readers give me through the Farmer a few hints on their culture? E. R. C.

Roxbury, Mass., March 2, 1869.

Remarks.—We suppose our correspondent means by "onion sets" such as are raised by the market gardeners, who use small onions or "sets" instead of seed. The sets are mostly raised in the neighborhood of Philadelphia, and cost, a few years ago, some $40 per barrel,—enough for one-eighth of an acre. They are planted on what these market gardeners call "beds," that is, land highly manured, thoroughly ploughed, and carefully hand-raked. They are planted at different times to secure a succession of crops.

PINE SHAVINGS FOR LITTER.

Please inform me through your valuable paper whether it will pay to draw pine shavings from planing machines, a distance of six miles, at a cost of fifty cents per load? Can draw in a box built for the purpose, three hundred bushels. Is this cheaper than straw at six dollars per ton for bedding horses and cattle? Onyx.

Williston, Vt., April, 1869.

Remarks.—The shavings cost fifty cents a load, to which is to be added the cost of hauling, we suppose. Well, if the team can be spared about as well as not, we should go for the shavings rather than go for the straw, and pay six dollars per ton for it.

IRISH POTATOES FROM SETS.

I wish to inquire through your paper whether Irish potatoes can be grown from sets similar to to the sweet potato? Whether there is any difficulty in so doing? Subscriber.

Shelburne, Vt., 1869.

Remarks.—We suppose they can, but never knew it tried; and cannot tell you. Who will?

REMOVING GOOSEBERRIES.—CRESTED DUCKS.

What time of the year shall I transplant my gooseberry bushes. The bushes are large and heavy bearers, and I want to remove them without injury if possible. Will you also inform me what breed my newly purchased ducks belong to? They are large, white, with large white "waterfalls" on their heads, black spots on sides and breasts. M.

Newport, Me., April 5, 1869.

Remarks.—Gooseberry bushes should be removed as soon as possible. Early in the spring, or in good season in the fall, are nice times for transplanting.

We presume your ducks are what is called the Crested or Top-knot. They are of various colors, pure white, black, and mixed black and white. They are a beautiful and ornamental variety.

TOP-DRESSING FOR SANDY GRASS LAND.

What is the best top-dressing for grass land on sandy loam. H. M. B.

Curtis' Corner, Me., April, 1869.

Remarks.—Probably a rich compost of clear barn manure thoroughly mingled with old meadow muck. Two parts of muck to one of manure will make an excellent compost.

TO REMOVE PITCH.

In handling pine wood a person's hands are often smeared with pitch which it is difficult to wash off. By applying grease or oil just previous to washing, it can be readily removed.

Melrose, Mass., April, 1869. Philaeter.

AGRICULTURAL ITEMS.

—Col. B. P. Johnson, for many years Secretary of the New York State Agricultural Society, died in Albany, April 12th.

—By the use of machinery invented within the past twenty years, the farmer's boy can often do the work of ten men.

—If any one was ever dragged around by the hair of his head, he can guess how pleasant it is for a sheep to be hauled about by the wool.

—Wild horses have become so numerous in New South Wales that they are regarded as a pest and are trapped in various ways. They sell by the hundred at two cents apiece!

—A correspondent of the *Prairie Farmer*, who sowed a sample of the Arnautka wheat from the Department of Agriculture in 1867, is well pleased both with the yield and the quality of the grain. He raised at the rate of fifty bushels per acre.

—Kennicott says plant small trees. They cost one-half less at the nursery, less in transportation, and in planting you will scarcely lose any. You can form the tops to suit yourself. Form the heads as low as you please.

—If it is true, as is often said, that one of the secrets of successful farming is to sell when others are buying, and buy when others are selling, the present is just the time to buy or set out a hop yard.

—The Commissioner of Internal Revenue has recently made a decision to the effect that cheese factories are manufactories and liable to pay a tax. Butter and cheese manufactured upon the farm where the milk is produced is held to be exempt from taxation.

—A correspondent of the *Ohio Farmer* whose sheep were dying from a disease known in that section as "paper skin," similar, we think, to the bloodless disease described by Dr. Boynton of Woodstock, Vt., a year or two since, killed one or two of these diseased sheep, about on their last legs, and on dissecting them, found the tubes of the lungs filled with small thread-like worms, from half an inch to two inches long, and of a whitish color. He then killed a healthy, well-conditioned wether, examined its lungs and found nothing of the kind.

—A short time before his death, Gen. Washington wrote a letter containing the following passage: "It is hoped, and will be expected that more effectual means will be pursued to make butter another year, for it is almost beyond belief that, with 101 cows reported on a late enumeration of the cattle, I am obliged to buy butter for the use of my own family."

—The well known seedsman, James Vick, writes to the *Rural New Yorker* that he has about three bushels of the potato recently named the King of the Earlies, which, at $50 a potato—at which price these potatoes are said to be sold—he estimates to be worth $30,000. Instead of thinking this variety a week earlier than the Early Rose, he pronounces it two weeks later, and evidently has but a poor opinion of it.

—The Worcester County, Mass., Horticultural Society will hold its Thirtieth Annual Exhibition of fruits, flowers, plants, and vegetables, at Horticultural Hall, Worcester, Mass., Sept. 21-24, 1869. A liberal list of premiums, from $20 to $1, has been made up. The society also offer a piece of plate valued at $25 "for a safe, certain and economical method, better than any now known, of destroying the currant worm, or preventing its ravages."

—It is already easy to distinguish the English from the American elms on Boston Common, by the more advanced condition of the buds on the imported trees. It is spring in old England; and these trees are true to the habits of their ancestry and their infancy, regardless of the many scores of years that they have experienced the bleak tardiness of the New England climate. They also remain in foliage in the fall considerably longer than the American elms.

—The *Ohio Farmer* compares the reports made by the cheese factories at the meeting of the Dairyman's Association at Barre, with that of a factory in Loraine County, Ohio, and concludes that the old Bay State is much behind Ohio in the production of cheese. In Massachusetts there was an average of 10 1-10 lbs. of milk used to one of curd cheese; in Ohio 9 6-10; the price obtained for the Massachusetts manufacture was $13.50 per hundred pounds; for the Ohio, nearly $16.

—President Abbott, of the Michigan Agricultural College, in the course of an essay on agricultural education, published in the *Western Rural*, says: "A good agricultural education at the present time would consist of a good knowledge of botany, chemistry, zoology, physiology, geology, meteorology, and the like, with a knowledge ot mechanics; and joined to these a knowledge of their applications to agricultural science, so far as those applications are supposed to be known; with next, a knowledge of those theories and applications to the science which are commanding the attention of both scientific and practical men, with, lastly, some knowledge of the deficiencies of agriculture both as a science and an art."

THE ROLLER.

Few implements used in the management of our farms are possessed of a higher practical value than the roller. As its form is various, so also are the uses to which it is applied. It would be poor economy to dispense with its assistance in any *system* of tillage, be the nature of the soil what it may. In some remarks upon the importance of the roller, a foreign author very judiciously observes:—

> "The first object usually aimed at in the use of this instrument, is to break those clods or indurated masses of earth which have resisted the action of the harrow; or, at all events, to bury them in the ground, so that at the next harrowing—which, when thus buried, they cannot well escape—they must of necessity be somewhat diminished in size."

The second object, according to our author, is to give a superior degree of compactness to the soil, and to effect a more perfect union of its component parts. The third use to which it is applied, is to press down and consolidate the earth about the seed, and to cause the latter to adhere better to the soil. The fourth is to cover with mould, or to press into the earth, the roots of those plants sown the preceding autumn, and which may have been detached or thrown up by the action of frost. Some persons think it has a tendency to destroy the insects which are constantly lurking beneath the surface, and ready at all times to prey upon the young and tenter vegetation.

The shape of the roller is various. It is generally *round*, though sometimes hexagonal and octagonal, and a roller armed with long spires or spikes, intended for pulverizing or breaking the clods, as well as for scarifying and loosening the earth where it has become "bound out," and requires loosening and renovating, is sometimes used.

A very good roller *may be* made by taking a hollow log—say three feet in diameter—and affixing to each end a gudgeon by which to draw it; but the *best kind* of roller is that made by constructing two trucks of the required diameter, and having placed them on edge, six feet apart, with a cross beam or axletree extending through the centre of each, fasten them by strips of stout plank, four inches wide, so that the roll will resemble the drum of a factory, when finished. A frame may be added, with a convenient seat for the driver, where weight will often be necessary to give efficiency to the implement, especially where the soil is very light and dry, as well as on those fields where there are clods to pulverize, or small cobble stones to be pressed down.

Every one who has rolled a field sown with grain, has observed that the seeds come soonest in the tracks of the animals used in drawing the roller. This makes it sufficiently evident, that, in order to secure quick and healthful germination of the seeds, the soil should be closely pressed about them, while the mass of the soil should be light and finely divided.

WHEAT--RYE--OATS.

We had a little chat last week with Mr. R. S. Blanchard, one of our subscribers in Walpole, N. H., who came to market with a flock of sheep fed by himself, the sale of which was noticed by our reporter. Mr. B.'s farm is on the Connecticut River, but none of his land is subject to the annual overflow of that stream. His soil is a heavier loam than much of the River land. On half an acre of this land he harvested fourteen bushels of wheat last year. The land was in good order, having been planted to corn the year before. On the half acre he sowed some twenty-five bushels of ashes; leaving, however, two corners purposely without ashes. On one of these corners he applied a dressing of lime from a parcel that had been left by the masons and had laid in a cellar two or three years. On the other corner nothing was applied.

When the wheat was just beginning to head, the whole field was beat down by a storm as flat almost as though it had been passed over by a roller. The neighbors thought it could never rise. In a few days, however, it gathered itself up pretty well, but in about two weeks it was again prostrated by another storm, but not quite as badly as at first. Most of it again stood erect. Between the portion ashed and that limed there was little difference; but on that to which neither ashes nor lime was applied the growth was considerably lighter, and the straw was rusty, while it was bright and handsome elsewhere. He believes the ashes and lime strengthened and toughened the straw, and saved the crop.

He also mentioned a little experiment in sowing winter rye in the spring. From twenty quarts sown in March seven bushels were harvested. If put in early enough to have the ground well frozen afterwards, he thinks winter rye may be sown in the spring.

In reply to our questions about raising oats he said his crops ranged from 50 to 95 bushels per measured acre. Had raised 85 bushels per acre on a field of five acres. He had tried superphosphate but on his land thought it was no better than the same amount of leached ashes.

For the New England Farmer.

RAISING CALVES.

I do not propose to give a method of raising calves, so as to produce large and fine animals at one year old on a minimum quantity of milk. For such a purpose, Mr. Secretary Flint's hay-tea system is perhaps the best that is yet known. Yet nearly all the experiments that I have seen tried, to raise calves on a meagre allowance of milk, have been unsuccessful. I have a method tested by ten years' experience, without a single failure, that will produce yearlings fully equal in size to average two-year olds reared on the old system. The method requires only a small quantity of new milk, and not a large quantity of skim-milk.

The breeding cow should be at least four, or, better still, eight or ten years old; and should be dried two months before calving. She should be kept in good trim, but not very fat, by giving her all the good hay she will eat up clean, and two quarts only of corn cob meal, daily, or its equivalent in some other concentrated food.

Let the calf remain with the cow from four days to a week after it is dropped, or until it becomes sprightly and eager for nourishment. This is a great advantage both to the cow and calf; for the calf will learn to drink more readily, and the subsequent flow of milk will be increased. If the instinctive yearnings of the mother for her offspring, during the first few days, are not gratified, such violence is done to her feelings as will reduce permanently the quantity, if not the quality of her milk. The cow should be milked clean twice daily, after the calf is satiated.

Remove the calf as much out of sight and hearing of the cow as circumstances will permit, to a clean, dry appartment, well littered with straw or sawdust, and always supplied with fresh loam for the calf to lick, and keep the apartment dry and clean through the entire season of its use. Let the calf fast eight or ten hours, before attempting to feed it. Then if it will suck your finger, with or without a rag wound around it and wet with milk, you may gently press down its head so as to bring its lips in contact with a little warm milk in a dish, still keeping your finger in its mouth; and with a little kindness, patience and perseverance, and such means as the trial will readily suggest, you will soon learn it to drink.

But occasionally there is a calf that will not suck the finger, nor anything else, except what nature has provided for it, without long and weary solicitation, partial starvation, and an exhaustion of more patience than any ordinary man or woman possesses. I have known several such cases, where the final result has been despair to the owner and death to the calf. Such a result can be avoided by taking a tin coffee-pot, partially plugging the spout, winding a rag around the same,—passing one thickness of a thin rag over the end of the spout, and making all fast. Make the cover tight by a rag or otherwise, then put in the pot a quart of milk, fresh and warm from the cow, and insert the spout in the mouth of the calf, elevating its head so that the milk will run down its throat. If fed slowly, the calf will swallow. If there be symptoms of choking, or extreme reluctance to receive the milk, remove and re-insert the spout at short intervals, giving the calf time to breath and rest. If the weather be cold, or the process of feeding be long continued, care must be taken to keep the milk at blood heat, by warming the pot in hot water, or by other means; for cold milk is extremely offensive to a young calf, and will induce scouring. Persevere in this method, day after day, if necessary, or until the calf sucks the spout; and here ends all trouble, for thereafter the calf will be after you, and ready to take his food in any way proffered. If, in the trial, you find your patience waning, give you wife one dollar or five dollars, according as you value said wife and calf, to complete the task.

While in the above process, keep the calf hungry, feeding only twice a day, with not more than a quart or three pints at a time actually swallowed. After the calf has learned to drink, gradually increase the quantity to three quarts, twice a day.

When the calf is ten days or two weeks old, accordingly as it may be a good or poor feeder, begin to substitute small quantities of heated skim-milk, mixed with the new milk, gradually increasing the former and diminishing the latter, till at the end of three or four weeks, the new milk be wholly withdrawn.

At six or eight weeks old, the maximum quantity of milk is required; when it should be, to each calf, seven or eight quarts per day. After this, the milk may be gradually diminished, as the appropriation of other food is increased. *The calf must have some milk until it is five or six months old.* If it be desired to withhold milk entirely at the end of this period, begin to add warm water in the second month, gradually substituting it for milk; and in the fourth month begin to add minute quantities of some kind of meal, so slowly increasing the same, that at the end of the year, it shall not exceed one pint of corn meal, or its equivalent, daily. Let the calf have no cold water till it is five or six months old. The mean average daily feed of milk for the six months need not exceed five quarts to each calf. As to other feed besides milk, during the first five or six months, with the small exceptions herein named, only one thing is necessary, viz: *old hay*—not mown grass, not new hay, not rowen.

I have at this writing two thriving calves, about three weeks old, that eat hay and chew the cud, with all the dignity, composure and apparent satisfaction of oxen. The hay should be put before them, not first, when they are two months old, as some writers recommend, but as soon as they are taken from the cow, and kept before them continually, fresh and clean. I have tried nearly all kinds of feed that have been recommended, and with the exception of milk, hay and hay tea, have found them all positively injurious to young calves. They should have airings and exercise in a yard where there is the least possible amount of grass, plenty of loam, and cool shady places. The old system of weaning calves by turning them out in the hot sun, and into a full feed of grass, is well calculated to make scrubs, and it seldom fails to do so.

A six or seven months old, having been permitted slowly to increase its feed of grass, the calf may be turned on a stinted aftermath; an orchard is an excellent place, and the wind fall apples will not hurt them. There need be no water in the lot, as it is better to give them drink in the form of warm water and very little meal.

If, during the fall and winter, there may be on hand skim milk, sweet or sour, that is not demanded by filthy and abominable swine, so that two or three quarts freely diluted with hot water, may be furnished to each calf daily no meal or oats, or other concentrated feed is required—milk is better than anything else. When winter comes tie up your big calves as you do other cattle, and give them all the varieties of fodder that they will readily eat.

Sometimes from an inflamed udder and consequent unhealthy milk, the young calf will be feverish and constipated. As a remedy, dissolved Epsom salts or castor oil may be administered in the feed. But oftener from too much cold milk or access to grass, scouring is induced. For this, chestnut bark tea is a sure remedy.

The above method is intended for spring calves, but with such modification as the season may require it will be found to be equally successful with fall and winter calves.

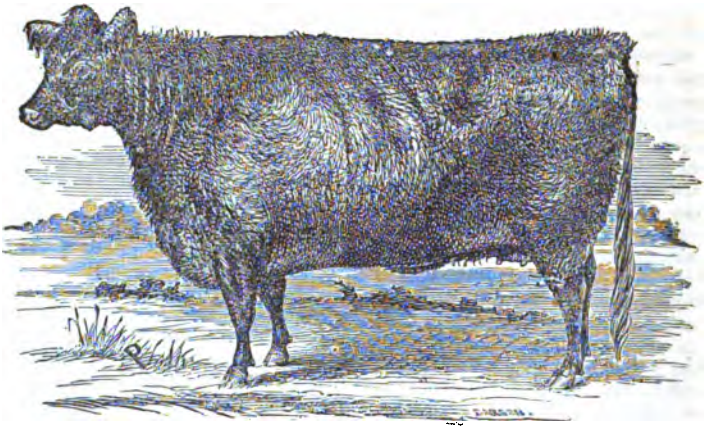
To milk men the above method may seem too costly; but while butter is fifty cents a pound, and the calves are worth thirty dollars each, at eight months old; and while I would sooner pour the skim milk on the manure heap than have any detestable swine on the farm, I am satisfied with the result.

In closing, let me say to the reader, commit the care of your calves to a common hired man or careless boy, and although they will assure you that your directions have been faithfully obeyed, yet you will be ashamed of your yearlings. Take care of them yourself and you will be proud of them. Eternal vigilance is not only the price of liberty, but the price of several good things on a farm.

I. B. Hartwell.

Wilkinsonville, Mass., *April* 13, 1869.

Protection to Game.—A petition numerously signed is before the Legislature asking that a law may be passed prohibiting the killing of quail or partridges in this Commonwealth for three years. There is no doubt that these birds will become entirely extinct if their wholesale slaughter is not prevented, and now that we are paying attention to stocking our rivers with fish, we should certainly do what we can to prevent the extinction of these birds.



THE GALLOWAY CATTLE.

We have recently given our readers excellent illustrations of several of the families of long-horned and short-horned cattle, and this week we have a fine cut of a no-horned or Galloway cow, as a representative of this favorite Scottish breed.

This race was originated in the low-lands of the south-western part of Scotland and take their name from that district. They were carefully bred and much improved by the Earl of Selkirk for several years, beginning with 1786. Mr. Youatt says there is perhaps no breed of cattle which can be more truly said to be indigenous to the country, and incapable of improvement by any foreign cross, than the Galloways. The crosses which have been made with the finest Short-horn bulls, have not proved satisfactory, and the best breeders now rely on selections of the pure Galloway. They are generally very docile. Even a furious or troublesome bull is very rare.

Mr. Youatt gives the following description of this breed:—"The Galloway cattle are straight and broad in the back, and nearly level from the head to the rump. They are round in the ribs, and also between the shoulders and ribs, and the ribs and the loins. They are broad in the loin, without any large projecting hook bones. In roundness of barrel, and fulness of ribs, they will compare with any breed, and also in the proportion which the loins bear to the hook bones, or protuberances of the ribs. They are long in the quarters and ribs, and deep in the chest. but not broad in the twist. The slightest inspection will show that there is less space, between the hook or hip bones and the ribs, than in most other breeds. They are short in the leg, and moderately fine in the shank bones. They are clean, not fine and slender, but well proportioned in the the neck and chaps; a thin and delicate neck would not correspond with the broad shoulders, deep chest, and close, compact form of the breed. The neck of the Galloway bull is thick, almost to a fault. The head is rather heavy; the eyes are not prominent, and the ears are large, rough, and full of long hairs on the inside. The Galloway is covered with a loose, mellow skin of medium thickness, and which is clothed with long, soft, silky hair. The prevailing and the fashionable color is black—a few are of a dark brindled brown, and still fewer are speckled with white spots, and some of them are of a dun or drab color, perhaps acquired from a cross with the Suffolk breed of cattle. Dark colors are uniformly preferred, from the belief that they indicate hardness of constitution."

In his late work on *American Cattle*, Mr. Allen says that polled or hornless cattle came into this country with some of the early importations, as such have been known here for more than a century past. As they were red. spotted, and of all colors usual among our native cattle, they probably were picked up from the polled herds of Norfolk or Suffolk, in England, where they have abounded for centuries. About the year 1850, some enterprising Scotch farmers made the first importations of Galloways into the vicinity of Toronto, in Canada West. Their attachment to them in Scotland was too strong to be overlooked or forgotten in their new homes. The cattle possessed certain qualities which they found here in no other race, and with a characteristic love of their native land, as they loved the poetry of Burns, and repeated his songs, they also longed for and sought the cattle of their native hills and heather. There must have been other importations, for in the year 1857, we saw upwards of forty of them exhibited by competing owners at a Provincial agricultural show, at Brantford, and have since met them in equal numbers at other shows in the Province. They were fine cattle—full, round, and comely in form, and in appearance; and taken altogether, fully answered Mr. Youatt's description.

Their lack of horn is thought by some to be a great merit, but though they cannot *hook*, they can and sometimes do *butt* severely, and on that account are regarded by some farmers as more dangerous in a herd than those cattle which have more formidable looking horns, and Mr. Allen says that the safety of him who handles them lies more in their docility of temper and good training than in their inability to inflict injury.

Mr. Youatt says that the milk of the Galloway cows is rich in quality and yields a large proportion of butter, but they are not good milkers.

The above illustration is copied from Mr. Allen's *American Cattle*, and is an accurate portrait of a beautiful young Galloway cow, owned by a gentleman in Canada West.

COL. T. FITCH'S STOCK FARM.—The Norwich, Ct., *Bulletin* gives an account of a visit to the farm of Col. Thomas Fitch, of that city. It is about three-fourths of a mile from the railroad depot, and contains some 100 acres. The land was formerly covered with granite boulders, which have been sunken or removed. He has barn room for 225 head of cattle and about a dozen horses and colts. His herd of cattle consists of thirty thoroughbred Jerseys, thirty Ayrshires, with crosses. Col. F. has been engaged in breeding for more than twelve years. He has tried crossing Alderneys with Devons, Short-horns, Ayrshires, Natives and Madagascars, and has arrived at the conclusion that the milk and butter qualities of all the different breeds are improved by crossing with Alderney males. Nearly all the half-blood Alderneys he has raised are better for dairy purposes than Devons, but the cross of Alderneys and Ayrshires are in his judgement the best cow, in all respects, that he has ever seen or bred. They yield more value in milk and butter, are flush milkers, good size and form, and are easily kept. This cross makes fine working oxen.

The swine family is also well represented there. The famous Seftons, a breed that gets fat in pasture, from the estate of Earl of Sefton, England, the Chester County White, and the cross of the two breeds, are there to be seen in all their native hoggishness.

MASSACHUSETTS AGRICULTURAL COLLEGE.—The Trustees have elected the following officers:—*President*—William Claflin. *Vice-President*—Wm. S. Clark. *Secretary*—Charles L. Flint. *Treasurer*—Nathan Durfee. *Auditor*—D. Waldo Lincoln. *Executive Committee*—Wm. S. Clark of Amherst, Henry Colt of Pittsfield, Wm. B. Washburn of Greenfield, Nathan Durfee of Fall River, and Phineas Stedman of Chicopee.

The Executive Committee was authorized to employ Wm. D. Davis of Warner, N. H., a grandson of Hon. Levi Bartlett, as Superintendent of the College Farm. Mr. Davis has, for the last three years, held the position of Superintendent of the Government Hospital Farm, at Washington, D. C.

CABBAGES.

A correspondent of the *Germantown Telegraph*, who raises cabbages for stock and who prefers pasture land of a light, sandy texture for this crop, gives the following as his process of cultivation:—

When I grow cabbages on pasture ground, I break it up early in the spring, and having rolled and harrowed thoroughly—I strike the land off into furrows eighteen inches apart, and apply the manure—one shovelful to the hills, the hills being eighteen inches apart. The manure is first leveled, then covered with about one inch of fresh, fine soil, and on this the seed is deposited, and covered about one inch in depth. As soon as the plants appear, they receive a dressing of soot, one part; sulphur, one part; gypsum, one part; and wood ashes, sifted, two parts; the ingredients being thorougly mixed, and applied by means of a box with a perforated top. The morning is the most suitable time for the application of this dressing, as the dew serves to retain it on the leaves, and prevents its being blown off by the winds. When the plants are fairly in rough leaf the hills may be thinned, and vacant ones filled up by transplanting from others, and a dressing of slaked lime, one part; wood ashes, four parts; pulverized charcoal, one part; gypsum, one part; and common salt, one part; applied and worked in around the roots. Frequent dressings with the hoe are more indispensably necessary to the successful development of this vegetable than to any of the other broad-leaved varieties, especially during the earlier periods of its growth.

As a feed for milch cows and young cattle this vegetable is highly esteemed; and as it may be kept through the winter with little trouble, and fed daily, at times when green succulent food is with difficulty obtained, it is difficult to estimate it too highly. Provision should be made for storing it in the immediate vicinity of the barn, or if possible in the cellar which occupies, or which should occupy, its basement, and where it can be protected from the effects of frost. By covering the roots with the soil of the bottom, and placing the cabbages in an upright position, unless the temperature is greatly depressed, considerable additions will be made to the crop in weight, and very little loss result from decay or rot—an evil frequently fatal in its effects upon the cabbage when housed in the ordinary way, and in house cellars, which are generally too confined and warm.

When fed out, the heads and leaves should be finely chopped, and mixed with corn and cob meal, moistened with warm water, and seasoned with a few handfuls of salt.

From the Willamette Farmer.

MY GARDEN.

Now, as the Spring returning,
Sweet with the breath of flowers,
Calls at my open window
And whispers of by-gone hours,
I long for my pleasant garden,
To work in the warm brown earth,
To nourish the wee green children,
And watch for the seedlet's birth;
To breath in the cool of evening
The odors of balm and spice;
For, to dress and keep a garden,
Was the work of Paradise.
And is not this a reason
For the wish we always feel,
To plant in the shining seed-time
Earth's treasures to reveal;
To join in the great procession,
Earth's workers moving on,
And help, though e'er so little,
The hand of the Mighty One!

Salem, Oregon, Feb, 1869. BELLE W. COOK.

NEW YORK STATE FAIR.

The address of the President, Hon. T. H. Faile, at the late annual meeting of this Society, contains many suggestions which we think are important to other societies as well as that of New York. We make a few extracts:—

"The Fair was largely attended, and that without any of the extraneous means, now, unfortunately for the good morals of the people, resorted to for financial success in many of the State and County fairs. No trials of speed, of either running or trotting horses, nor shows, nor games of any kind, have ever been allowed on the New York Agricultural Society's grounds; and in this connection I will not hesitate to express an earnest hope that our Legislature will withdraw all aid from every county society that perverts the funds of the State to such uses. It is a libel upon the intelligence and good sense of the farmers to suppose such things necessary to make a fair attractive or financially successful. The net results show that they will support all fairs where the managers conduct them in accordance with the principles on which our agricultural societies were founded, viz. the diffusion of useful knowledge.

"The exhibition of machinery and agricultural implements, showed in a stronger light than ever before the marvellous inventive genius of our people. The time has passed when mere hand work can make the cultivation of the soil remunerative, and it is only by the use of improved implements that success can be attained.

"In ditching and digging machines there is open a wide and very important field for improvement and invention.

"Surprise was expressed at the last fair that no premium was offered for thoroughbred, in other words, for race horses. The simple truth is, farmers have no use for thoroughbreds, or for those little trotting horses so common at this time, and the breeders of them not only lose money, but also run the risk of spoiling their sons, for it is undeniably true that the racing and trotting of horses, whether at fairs, or on the track, is accompanied by falsehood, trickery, profanity and the excessive use of intoxicating drinks.

"It has been the custom to allow entries to be made on the first day of the fair, often on the second and sometimes on the third, causing great confusion and difficulty in making the arrangements. This year we departed from the custom, and gave notice that machinery and live stock must be entered two weeks before the fair. The Royal Agricultural Show of England last year required entries for machinery and implements to be made ten weeks, and of live stock six weeks before the Fair. The Highland and Agricultural Societies of Scotland closed all entries over six weeks before the fairs.

"I recommend that hereafter all entries except for fruits, flowers and vegetables be closed from two to four weeks prior to the Fair. When the entry is made the entrance fee should be paid, and a description of the animals, machinery and implements furnished for publication in a catalogue, which should be ready when the fair is opened and sold at cost. If the articles were in their place a day or two before the opening, it would give the judges opportunity to make a more thorough and satisfactory examination, especially of machinery and manufactured articles. It would also be an accommodation to the railroads, by which we have always been favored, by not crowding all the business into one or two days."

THE POTATO.

WALTER RALEIGH'S name has long been associated with the history of the introduction of the potato into Europe. It appears, however, that the plant was known to Clusius, a distinguished French botanist, at least thirty-three years before its introduction by Sir Walter. But he is undoubtedly entitled to the credit of encouraging the cultivation and use of the potato, which has proved one of the greatest blessings ever conferred upon man. When cultivated in the virgin soil in this country, from three to four hundred bushels per acre was the common crop. There were certain elements in the soil or climate, or both, that seemed peculiarly favorable to its growth, and the same varieties were often raised upon the same soil for many successive years, without any apparent deterioration in quantity or quality.

But all this is now changed. The average crop of Massachusetts for 1867 was ninety-six bushels per acre, and scarcely any variety can be depended on to yield potatoes of uniformly good quality.

Since the disease that prevailed so extensively twenty or twenty-five years ago, the yield per acre has diminished at least two-thirds. Land that is in such condition that it will produce more corn and grass than it formerly did, will yield but about one-third as many potatoes as it once would. Even when they are apparently healthly and of sufficient size, it is rare that the crop exceeds a hundred bushels, and unless both the soil and season are favorable, the quality is comparatively poor. The most thorough investigation and the most careful experiments and observation have failed to ascertain satisfactorily the cause of the disease, or of the diminished amount of production.

All that can be said is, in a general way, that the potato, like many trees and other vegetables at different periods, has been attacked by an epidemic, and it is to be hoped that it will wear itself out, and that the potato will in time, recover its healthy condition.

In the meantime it has been found by experience that new varieties, for a few years, exhibit the most vigorous growth, and are the most free from disease. Several of these varieties, and especially the earlier ones, have given their cultivators good satisfaction, and encouraged the farmers to hope that some new variety may be found, that will yield as large crops as they formerly raised. Some good varieties have been produced by enterprising and philanthropic individuals. But lately the business seems to have fallen into the hands of unscrupulous speculators, who are thriving upon the credulity of the public. They are resorting to the tactics of the quack medicine men who understand that success depends but little upon the quality of the article, but upon the amount they invest in advertising. The number of new varieties offered to the public, each claiming to be the best, bids fair to keep pace with the new varieties of pills and syrups. Now all this is simply ridiculous, and we have very little sympathy for those who allow themselves to be swindled out of their money by these transparent tricks of speculators.

It is very easy to produce new varieties from the seeds of the potato. In our own experience, fourteen varieties were produced from the seeds of one potato ball, and we have heard of a still greater number. Most of the varieties, it is true, were of no value, but some were good. One or more varieties of good potatoes may be expected from every such experiment, and it is to be hoped that enterprising farmers and gardeners will continue to make them, and carefully note the results. In this way, as old varieties depreciate or run out, new ones will be found to take their place.

The Early Rose, which sold last spring for three dollars a pound, is offered now for seventy-five cents. The reports respecting the quantity and quality of this variety are as various as were the soils upon which it was planted.

Some good may result from the potato fever. Those who pay fancy prices for new varieties will be likely to cultivate them well, and remember and record the methods they adopt, as well as the results. One thing seems to be settled already, viz: that one or two eyes in a hill will yield more potatoes to the acre, and those of more uniform size and quality, than whole potatoes or six or eight eyes in a hill. The hills with one or two eyes may be placed nearer together and thus the number of hills increased and the land more fully occupied. This approaches the old Irish method of cultivating potatoes in beds worked fine by the spade, and the sets planted in squares of about one foot. At harvest time the whole bed was filled with tubers. Another thing also seems to be decided by recent experience. Those varieties that make their growth before the summer drought are more certain to give satisfactory results, and to escape the attacks of disease.

As the potato is one of our most important crops, its culture deserves careful study and observation.

Liquid Grafting Wax.—The following will make a wax that can be put on with a a brush, will always be ready for use if kept tightly corked in a bottle, and can be applied to bruises or wounds on trees, or used as a grafting wax, viz:—Melt one pound of rosin over a gentle fire; add an ounce of beef tallow and stir it well; take it from the fire, let it cool down a little and add a table spoonful of spirits of turpentine, and after that about seven ounces of very strong alcohol (95 per cent.) It will be necessary, after putting in the alcohol, to put it on the stove again stirring it constantly, taking great care that the alcohol does not get enflamed. To avoid this, remove the kettle from the stove as soon as the mass, which may have cooled rapidly by the addition of the alcohol, begins to melt. Continue to stir, until the whole mass becomes the consistency of honey. This will be found far better and cheaper than the common shellac preparation used for this purpose.—*Maine Farmer.*

—T. S. Clough states in the *Prairie Farmer*, that he once brined and thus thoroughly cleansed seed wheat for thirty acres. He took the small and inferior grain thus abstracted, and washed again. From this he sowed a very few bushels, the result from which was inferior wheat in both quantity and quality—all the remainder was fine, free from oats and smut, and produced a large yield. He then came to the conclusion that "As ye sow, so shall ye also reap," and if anybody persists in sowing smut and dirt, instead of good, sound, plump grain, they may expect to reap accordingly.

For the New England Farmer.

FARMER BROWN, SOLUS.

BY FRED D. MUZZEY.

I vow! that's tugging pretty tough; whoa Buck, whoa Bright, whoa ho!
I guess we'll stop and breathe a spell, it really seems as though
The farm grew stunnier every year, I've broke two p'ints to-day.
I'm tempted every spring I plough to se'l and go away
Out West; but as the summer comes and the old hills get green,
And the rocks are covered up with grass and posies shine between,
And everything 's so beautiful, I change my mind, you see,
And say, "I guess I'll keep the farm,—it's good enough for me."

I'm satisfied to walk the ways my sire and grandsire trod,
To breathe the same rough mountain air, and till the same hard sod;
The same Lord made the whole big earth, and He is everywhere,
It aint no matter where I be, he has me in his care.
Some say we should give up the world with all its hopes and fears,
That 'tis at best a dreary place of sighing and of tears,
But Jesus thought 'twas good enough that on the cruel tree
He died for it, and so I guess, it's good enough for me.

And these same folks say God is bad, a weak and cruel God,
That 'tis in anger not in love he lays on us the rod.
And now I tremble when I think that this I almost cried
Six years ago come Tuesday night, when little Benny died.
The little dead face hardened me; what had my baby done?
But I tried hard, and *just* made out to say, "Thy will be done."
God works in mystery, and sometimes 'tis hard the right to see,
But poor old sinner that I am, He's good enough for me.

There's my two daughters, Hattie and Kate, I know they don't wear curls
Of borrowed hair, and put on airs like neighbor Jones' girls;
They never went to boarding school, and don't wear dimund rings,
Nor kids, nor silks, and velvets, and them Grecian bends and things;
But they're obedient, loving girls, brown birds who work all day,
And yet can sing when evening comes, and join in fun and play.
And John, too, aint a chap for show, but he is frank and free;
An honest, faithful boy, and so he's good enough for me.

And when life seems a stormy sea, and I a hopeless waif,
I've just to think of my old wife, and I feel kinder *safe*.
Just as the Roman Catholics I think must always feel
When they cry out to saints, or to the Virgin Mary kneel:
For it seems as though her soul 'tween me and God in Paradise
Must make even stains like mine seem somewhat dimmer in His eyes.
And yet she 's neither young nor handsome as she used to be;
But bless her pure and peaceful face, she 's good enough for me.

And discontent is wicked, for whatever can it be
But saying "What my God has made aint good enough for me?"
Such thoughts are impious; what are we that we should dare to say,
"This thing is wrong?" as if we could have shown a better way.
Well! moralizing here may help to keep a fellow sound,
But 't wont help on the Spring's work, nor plough the stunny ground.
Get up, old chaps, you're getting old and lazy too. I see,
But I am too, and so I guess, you're good enough for me.

Middlebury, Vt., 1869.

For the New England Farmer.

A RUN-DOWN FARM IMPROVED.

AGRICULTURAL PAPERS, FAIRS AND FARMERS' CLUBS,—WHAT THEY DID.

As helping to answer the queries whether "book farming" pays, whether fairs do any good and whether it is worth the while to sustain Farmers' Clubs, I submit the following personal history, at the risk of a charge of egotism.

In June, 1853, I returned after an absence of nine years at the "West," and came in possession of the homestead which my father had occupied about fifty years. With the first season's crops I was able to winter one cow, two yearling colts, one horse and one mare a part of the winter, by buying 100 bushels of oats; and raising for the family about ten bushels of wheat, twenty bushels of corn, twenty-five bushels of potatoes, ten bushels of apples, and some garden sauce, with nothing whatever to sell, but a part of a veal calf! Being myself a mechanic, without agricultural taste or knowledge, and fully occupied in my shop, hired help took care of the farm the first five years.

About 1858 I received a gentle hint from a brother in Wisconsin, not to let the old homestead "run down!" and supposing the suggestion was not entirely original with him, it took, and I immediately began to be interested in farming, out of regard to the family honor, or some other reason.

The next season, finding the farming "didn't pay," as heretofore practiced, I commenced taking an agricultural paper, the *Country Gentleman*, and began inquiring of my neighbors how I had better do with this and that piece of land, and thinking a good deal upon the subject while engaged in my shop.

Reading and thinking soon led me to acting, and more time was spent in looking over the farm, planning improvements and seeing that labor was judiciously applied. Soon my agricultural reading was increased by the addition of the NEW ENGLAND FARMER, monthly, and my farming interest was stimulated still more. I began to be more saving of manure and everything that would aid in producing crops, while much satisfaction was experienced in seeing that crops were improving. Another paper the *Western Rural*, making three, was now subscribed for; mechanical business began to lose its interest, the *Scientific American* was stopped; the fairs which I had attended several years as a mechanic, now began to have an increased interest to me as a *farmer*, as I examined the agricultural specimens on exhibition, and listened to the evening discussions among farmers.

In 1861, I began to think about trying to get up a Farmer's Club, but could not overcome the obstacles till February, 1862, when one was organized, which by its success till this time has contributed not a little to the benefit of my farming.

Three agricultural papers not proving enough, the *Mirror and Farmer*, *Rural American*, and *New England Homestead* were added, which with six other regular periodicals, most of which have agricultural reading, have each contributed somewhat to the improvement of the old homestead, until it now produces annually from three to four times the value it did eight or ten years ago; having increased in productiveness almost in exact ratio to the annual increase of the number of agricultural papers taken, and consequent increase in agricultural reading, writing and talking!

Instead of being able to spare and sell off the premises only a part of a veal calf, and perhaps a few eggs annually, as during the first years, we were able some four years ago, to dispose of farm proceeds to the amount of about five hundred dollars, with a constant increase since, until the past year it has amounted to about twice that sum.

So much for the means of agricultural grace alluded to, and which are within the reach of hundreds of farmers who will plod on the old beaten track their fathers trod, complaining that "*farming don't pay* since the soil has got so worn out."

Brother farmers, you are mistaken. The soil is not worn out, and never will wear out, if you treat it civilly, until the "elements melt with fervent heat." If you make use of the same skill, tact, energy, wide-awake-fulness and industry, which ensures success in any and every other kind of business, you will find farming will "pay" better than all of them put together, while you experience daily and constantly a kind and degree of *independence* that no other calling affords. R. N.

Randolph, Vt., March, 1868.

For the New England Farmer.

A MINISTER'S GARDEN.

Some few months since I gave, through the columns of the FARMER, somewhat in general, my experience in relation to the condition of the various gardens that had fallen to my lot to subdue and cultivate. I now propose to speak somewhat in detail of one that I had the care of four years, to show what advantage can be derived from the careful and thorough culture of a garden.

I do this more for the encouragement of professional men, than of farmers; for in many instances their incomes are inadequate to meet their own necessary expenses and those of their families. Especially it is so with many of our country clergymen, and belonging to that class, I write for their benefit.

The garden of which I now propose to say a few words in its behalf, was about five rods long by two and one-half broad, of a moist, clayey soil; hard to cultivate, but capable, with judicious treatment, of producing the finest crops. When it came into my possession it looked like some potato patches I have seen, after the crop has been harvested in the autumn, as it was strewed with potato vines and the stalks of rank, dead weeds. It was also thickly covered with stones of all sizes, from those as large as two could lift, down to those not larger than a hen's egg, and any conceivable number of tufts of grass.

As it was late in the season when I first took possession of it, I did but little more the first year than remove what stones I conveniently could with my wheelbarrow, and bury the scattering vines and weeds, turn over with spade or hoe the tufts of grass, and take the best care I could of the various vegetables that were planted; being careful not to let any weeds choke the growing crops or go to seed. In the autumn I was well rewarded for all my labor.

The second year I had it ploughed in its season, and as I had removed the previous autumn all the rubbish, there was nothing to obstruct the plough but the remaining stones. These I removed and kept the ground in as neat and tidy a manner as hoe and spade and rake would permit, and I was rewarded with all the vegetables of various kinds that I needed for the use of my family,—then consisting of five persons,—for the year, and some in the summer that I sent to my neighbors.

The third year, instead of having it ploughed, I spaded the whole with my own hands, removed every stone I could find of the size of a large bullet, raked in what manure I had, and then planted it with the various kinds of vegetables, in drills, using guano for a fertilizer, with the exception of poll beans, which I planted in hills, and this year I not only had enough of all kinds of vegetables for my family, but sold to my neighbors to the amount of $15 or more. Besides this, the first year the asparagus bed and currant bushes were of no use, as they were so completely grown up to grass and weeds that they did not produce any fruit. I thoroughly cleaned and cultivated both, and the former yielded all that we wanted for our own table, and the latter were loaded with large and beautiful berries, which were a real luxury in their season.

Thus you see, Mr. Editor, that a little land well cared for, is not only capable of yielding large returns, but will become a real source of pleasure and profit to every faithful steward of the earth. And when the work is done, as it always should be, with our own hands, it not only helps to enlarge the measure of our income,—making us more independent of our circumstances, but adds greatly to the real pleasures of life, by furnishing a suitable supply of good and wholesome food and increasing the measure of our health. This latter blessing is one of no small consequence to all classes, but it is of immense advantage to the clergyman. Health is not an unpurchased blessing, but one that may be had for its own price. Pay the price and it is ours.

S. Barker.

Bernardston, Mass., March, 1869.

OPINIONS OF A MARKET GARDENER.

We have received the following valuable communication from C. Spratt, Market Gardener of this city, the substance of which we present as follows:—

"Noticing the remarks on onion culture in a recent copy of the *Herald*, for the benefit of onion growers, I would state that the sooner onions are planted, the better. The best bed of onions I ever saw in this city, was planted the 28th of March. Potato onions are the best and surest crop, especially for small gardens, as they are fit for the table the year round, and are also excellent keepers.

Early peas and potatoes should be planted, if possible, at the same time. Those who have any doubt as to the expediency of doing as recommended, should make the experiment.

Allow me to say that all who have not tried sprouting potatoes will be agreeably surprised to find the difference which will be made by doing so. They should be sprouted in thin layers in boxes or crates, and should be exposed to daylight, in order that the sprouts may be green and tough. Sprinkling milk-warm water on them three times a week, improves their growth. They should be started first in a dark room, then placed in thin layers as recommended. When the sprouts are one inch long, then they are ready to expose to daylight. At planting time, carry them carefully into the garden, in the boxes or crates in which they have been sprouted. Just before they peep through the earth they should be covered with straw or long manure.—*Utica Herald*.

EXTRACTS AND REPLIES.

DISSOLVING BONES IN ASHES.

I have a small quantity of old bones (say 1000 pounds) which I should like to convert into manure if I knew of any way of doing so cheaply, or would it be better for me to sell them at one and a half cents per pound, and buy phosphate of lime. Can some of your subscribers answer?

A Subscriber.

New Bedford, Mass., April, 1869.

Remarks.—While some of our subscribers are preparing an answer to the foregoing queries from their own experience, we copy from Dr. Nichol's little book on the *Chemistry of the Farm and the Sea*, the following directions for preparing bones by the employment of wood ashes, lime and sal-soda.

"Take one hundred pounds, beaten into as small fragments as possible, pack them in a tight cask or box with one hundred pounds of good wood ashes. Mix with the ashes, before packing, twenty-five pounds of slaked lime, and twelve pounds sal-soda, powdered fine. It will require about twenty gallons of water to saturate the mass, but more may be added from time to time to maintain moisture. In two or three weeks the bones will be broken down completely, and the whole may be turned out upon a floor, and mixed with two bushels of dry peat or good soil, and after drying it is fit for use. This mixture, embracing nearly or quite all the great essentials of plant food, is one which in its application will afford most prompt and satisfactory results. Its production cannot be too highly recommended."

Directions have frequently been given for the use of sulphuric acid, but this is dangerous stuff for people to meddle with who are not experienced in its use. Even the simple process recommended by Dr. Nichols may require some skill and practice. That "everything is a trade," is a fact that ought to be remembered by all who undertake to do anything from the directions of others. With the most particular directions how to chop off a log, what awkward work any one would make on the first attempt who had never swung an axe. It is a simple operation to put up a leach, but how many fail in getting lye fit to make soap. So in dissolving bones, practice makes perfect; and we might not lose our confidence in the recommendation of Dr. Nichols, though you should fail of perfect success on the first attempt. You will find the sledge hammering of a thousand pounds of bone no small job. Where one can wait six months or so for an operation, whole bones are sometimes treated with ashes as above. In such case if the larger ones are not sufficiently softened, they are raked out, and submitted to the same process again.

SUPERPHOSPHATE FOR POTATOES.

I would like to inquire of you or through your paper, the best method of planting Early Rose potatoes with Bradley's Phosphate.

East Hardwick, Vt., 1869. A YOUNG FARMER.

REMARKS.—In his circular, Mr. Bradley directs to apply for corn and potatoes "a table-spoonful of phosphate to each hill, thoroughly mix it with the soil, then drop the seed. This will require about 250 pounds to the acre." If the land receives no other manure he recommends harrowing in perhaps an equal or a little larger amount, sown broadcast, previous to planting.

SHEEP PULLING WOOL.

What makes my sheep eat wool? None but my ewe sheep do it. They have good hay, shorts and meal. I keep salt by them, and plenty of pine limbs. KEARSARGE.

East Andover, N. H., April 16, 1869.

REMARKS.—Sheep that have the itch or scab will sometimes strip themselves bare by rubbing and biting to relieve the intolerable itching produced by the disease. But sheep often bite or pull out wool when free from this disease. About three years ago we published a valuable article upon this subject written by Mr. E. R. Shedd, of Windsor, Vt. From two cases of wool pulling in his own flock, he concluded it was in consequence of a change from poor to good keeping, causing irritation and itching upon the skin, and that the animal pulled out the wool to reach the irritated spots. He also says that sheep coming to the barn in good condition and fed at once a liberal supply of grain will occasionally exhibit the same symptoms. The remedy which he has used with perfect success, is to take unguentum and hog's lard in equal proportions, mixed, and opening the wool at its ragged points, take a little upon the end of the finger and apply it upon the skin, rubbing it in thoroughly, being careful not to leave any of it upon the ends of the wool. This he recommended as a sure cure, if faithfully applied.

LICE ON CATTLE.

I would like to know the best method for killing lice on cattle. One of my calves is troubled very badly. A neighbor told me to try a little kerosene. I did so, and the result was the hair came off where I put the fluid.

A YOUNG SUBSCRIBER.

Dover, N. H., April 9, 1869.

REMARKS.—In the back numbers of the FARMER a great many remedies have been given. Mr. J. Wilkinson, of Baltimore, Md., recommends in the *Practical Farmer* the application of hard wood ashes with a sieve to the animal, from head to tail, applying two to three quarts. The animal should be kept from being wet a few days, after which if there is a warm rain let it be well drenched. As soon as the hair is dry apply ashes as before. A third application is generally sufficient, but never knew the fourth to fail. About four days should intervene between the ashings. The nits hatch in six to eight days, according to their position on the animal. The stable should be carefully cleaned, and the floor as well as walls whitewashed. Fat cattle seldom have lice. An ointment of one quart of lard melted with two ounces of yellow snuff rubbed on the back from head to tail, and around the neck and ears, has been found successful. Others rely on fine dust gathered in summer from the roads, or fine brick dust, feeding the animals meanwhile a little sulphur. "More depends on the nurse than on the doctor," in the stable as well as in the sick chamber.

BEANS AND PUMPKINS WITH CORN.

As you ask farmers to answer the questions of "Nat" in the FARMER of April 3, I offer the results of my experience upon the subject. I am about 70 years old, have worked on many farms in Massachusetts and Vermont, and in my travels have seen considerable of farming in Connecticut and New Hampshire. As I have a farm of only sixteen acres, I am able to till it pretty much as I please, and work for my neighbors about half the season. Consequently I am familiar with both good and poor management. From this experience I wish to tell "Nat" that I dont think pumpkins very profitable, though I raise a few to stew for pies and to boil for the pigs. But I do think it is profitable to raise beans with corn. For corn I plough my land deep, spread on a good coat of manure, which I plough under with a furrow of some three or four inches. I drop three or four kernels of corn to each hill, putting three beans on the west side of each hill. I run the cultivator both ways three or four times; the last time, when the corn is fifteen or more inches high, make very flat hills, keeping the ground nearly level. I never fail of a good crop of corn and beans. I consider beets better than potatoes, and worth three or four times as much as turnips. H.

Framingham, Mass., *April* 8, 1869.

HARD AND SOFT WOOD ASHES.

What is the comparative value of hard and soft wood ashes? or, in other words, what can a farmer afford to pay for soft wood ashes to apply to his land, the ashes of hard wood being difficult to obtain in large quantities? What is the best method of applying to a clay loam soil, where the chief object is to increase the amount of hay?

Lewiston, Me., 1869. SEARS.

REMARKS.—In an analysis made by M. Saussure, Jr., who analyzed some fifteen kinds of wood and bark, we find that 1000 parts of the dry wood of a young oak, produced two parts of ashes;

1000 parts	of	dry oak wood	produced	2	parts	of ashes.
"	"	poplar	"	8	"	"
"	"	horse chestnut,	"	35	"	"
"	"	pine wood,	"	15	"	"

The ashes of the wood, however, vary considerably in the soluble salts which they contain. We have supposed that the ashes of hard wood were heavier in measure than those of the soft woods, but that, pound for pound, there would be little difference in the amount of soluble salts which each would contain.

In an analysis by Sir H. Davy it is stated that 10,000 parts of the poplar gave seven of parts potashes; beech, twelve parts; oak, fifteen; elm, thirty-nine; grape vine, fifty-five. We think that clear wood ashes is richly worth twenty-five cents per bushel, on a large portion of our lands, but especially those which have been for some years under cultivation. Spread them broadcast in a still day.

BRICK AND CEMENT FOR MANURE TANKS.

I see that in your last issue, Mr. P. C. True, of Pittsfield, N. H., is preparing to construct a water-tight cellar of bricks and cement. I suppose, from his manner of writing, that he intends to build it under his barn. Now I believe a water-tight cellar, or at least a water-tight vat or tank of sufficient capacity to hold all the droppings from the stable, must be a paying investment for any farmer. But is brick a good material of which to construct it? I ask for information, intending yet to construct one myself. Will not the liquids percolate through them? Are they not extensively used for filters? I am told that stable liquids will destroy our common cement. Can any one give definite information regarding this? Is the Rosendale cement stronger or superior to the common cement?

D. L. TOLMAN.

Marlboro' Depot, *N. H.*, *March* 30, 1869.

REMARKS.—The bricks are used, we suppose, to keep *the form* of the cistern, and the cement to prevent the water from passing out. Water will go through the common soft brick quite readily. Hard, burnt brick would be better than soft ones; that is, would be more firm and durable. Many cisterns are constructed by cementing directly upon the earth, and answer a good purpose, but they are liable to be thrown out of shape by frost or by heavy rains.

A WORMY AND UNWELL COLT.

I have a very valuable colt, four years old, that has been troubled for the two past winters with a worm of a reddish color, about one-half inch long. I have fed her about a table spoonful of copperas every other day, which has brought away many worms, but yet she keeps running down and has a very poor appetite. She urinates often and but little at a time. As there is no veterinary surgeon in our parts, I ask advice of the readers of the FARMER and assure them that any suggestions will be thankfully received.

FRANK W. BARDWELL.

Alden, *McHenry Co.*, *Ill.*, *April* 3, 1869.

REMARKS.—From your description, we are inclined to the opinion that the worms in your horse are rather the result than the cause of the illness. Intestinal worms are natural to most kinds of animals, but any weakness of the digestive system favors their undue increase. We should fear inflammation or other disease of the kidneys or bladder, which may have been aggravated by the doses of copperas administered. In the absence of a veterinary surgeon we would advise you to consult your family physician. We solicit the opinion of the readers of the FARMER on the case presented by Mr. Bardwell.

HAY, CATTLE, WHEAT, POTATOES, &C., IN STOWE, VERMONT.

Stowe is ten miles from Waterbury, on the Vermont Central Railroad, and twenty-two from Montpelier. As a summer resort it is not surpassed by any town in the State in respect to its mountain scenery, having on its western boundary the highest peak of the Green Mountains.

As an agricultural town it is one of the best in Lamoille County, having a rich, productive soil. Farms have nearly doubled in price in the last five years, ranging from $25 to $100 per acre, including buildings. The hay crop has the preference here, as cattle and butter are the chief articles of export. Farmers who calculated last fall on the same bulk of hay keeping as much stock as usual, have found themselves greatly mistaken. There has been much complaint of fodder not spending well, and as far as my observation goes stock is looking rather poor in flesh this spring.

Some are looking for an early spring, which would be hailed with joy by many who are short of hay, which is now selling at $20 per ton, corn $1.40 per bushel. Wheat has been more extensively sown for the last three years, and fair crops have been realized. I know of one instance where twenty-two bushels were threshed from one bushel of sowing. Farmers find that they can raise their own wheat, since the high prices demanded for flour have driven them to it. No crop leaves the soil in a better condition for grass.

Raising potatoes for starch is rather playing out here. One starch factory which a few years ago received as many as eighteen thousand bushels in a single season is now ready to fall to pieces, having nothing to do. Some farms have been so badly run out by raising potatoes, that it will take years of hard labor to bring them back to their former state of productiveness. To test the effect of potatoes on land, plant an acre of corn and an acre of potatoes, side by side, giving each the same dressing and care, then stock both down in the fall or spring and note the difference in the hay crop.

Not much of the fertilizers which flood the market are used in this place, except Bradley's superphosphate of lime. This will be quite largely used this spring, and mostly on corn. Last season it was used by several, and gave general satisfaction. Some planted corn without any dressing except a little phosphate in the hill, and had good crops. Others mixed ashes and phosphate together—two parts of ashes to one of phosphate—and put a table spoonful in a hill, after the land had received a fair dressing of manure, and thought it paid well.

Stowe, Vt., April 12, 1869. S. W.

HEN MANURE.

Will you or some of your contributors inform me as to the best way of preparing and using hen manure. I have say fifty bushels which I intend to mix with fifteen loads, thirty-five bushels each, of meadow muck. Shall I mix ashes or lime or both so as to evolve the ammonia powerfully, before applying the manure? or shall I mix the ashes and lime, one or both, and plaster to fix the ammonia? or shall I simply mix the manure and muck with just water enough to moisten it?

Berlin, Vt., 1869. S. F. NYE.

I wish to plant an acre of corn and have about four barrels of good hen manure, but no stable manure. What shall I mix with the hen droppings?

Northboro', Mass., 1869. A YOUNG FARMER.

REMARKS.—We should not add either ashes or lime to the manure, but apply them to the land separately. Many think ashes neutralize the valuable portions of the manure. Muck, charcoal dust, woods or other soil or earth are good divisors and absorbents. The hen manure, at least, should be moistened with water, to which some book farmers add a little sulphuric acid. It should be well mixed with the muck, &c., and be shoveled over several times after mixing. Broadcast the ashes and lime and harrow in. We think it is well to add muck to the droppings from the roost frequently, and remove the whole often, both for the health of the hens and the economy of the manure.

USE FOR AIR-SLACKED LIME.

I have a barrel or more of air-slacked lime; also a small lawn, a fruit garden, and small patch for corn and beans, and to feed these a pile of good compost. What is the best use I can put the lime to?

Also, what is the sweetest kind of sweet corn?

Arlington, Mass., March 31, 1869. C.

REMARKS.—Spread the lime broadcast over the garden, after it is ploughed, and rake it in. It will have an excellent effect there. It is just what old gardens often need.

A GOOD COW.—BLEEDING OLD CATTLE.

I see on page 47 of the MONTHLY FARMER that Luther Stanley of Springvale, Me., has a native cow from the milk of which in seven days, eleven pounds of butter were made. I have a cow five years old last spring, that dropped her calf March 28, and in six days from the first Monday in June we made from her milk alone thirteen and one-half pounds of butter. On the fourth of December, when she was seven months on the way to come in again, she gave five quarts of milk, and January the twelfth she gave one and three-fourths quarts.

In your remarks on friend Jameson's visit in Suncook Valley, you ask what is the practice of farmers in relation to bleeding their cattle. My practice is to let my young ones keep all they have, but for an old one that is to be fatted, whether cow or ox, the very best thing that can be done for them when first turned to pasture, is to bleed them smartly. A few years ago I bought a pair of large, old oxen to work a few weeks and then turn out to fatten. They were sent to pasture the last of May, and were very poor. I sent word to the man that had the care of the pasture to have them bled in a few days. But it happened by some misunderstanding that they were bled by two different men. I was fearful that too much blood had been taken; but they throve remarkably well, and I sold them for beef in July, and they went to Brighton.

Fitchburg, Mass., 1869. I. B. W.

SUPERPHOSPHATE AND ASHES.

Last spring I tried an experiment with a mixture, in equal parts, of Bradley's Superphosphate and ashes on a piece of worn out sandy soil, that was considered almost worthless, and which had not been manured for years. On about half an acre planted with Jackson White potatoes I put a spoonful of the mixture in each hill, and raised 70 bushels of as good potatoes as I ever saw, and which are as good now as they were last fall. I also tried the mixture on a few rows of corn by the side of the potatoes with equally good results. I do not claim that I raised great crops on this land, but considering the nature of the soil, I think I got well paid for the experiment. JOHN SAVAGE.

East Haverhill, N. H., April 12, 1869.

REMARKS.—This experiment would have been more satisfactory if a portion of the field had been planted without any fertilizer, a portion with the ashes alone, and a portion with the superphosphate alone.

SUGAR MAKING.

Notwithstanding the numerous predictions to the contrary, the season has been a very good one for making maple sugar. Several persons in this vicinity have made from 800 to 1000 pounds, besides a considerable quantity of molasses.

One of my neighbors made 736 pounds in four days and nights, and burned only three cords of wood and that of rather a poor quality. He uses two sheet-iron pans, one as a heater, and the other for boiling. He cuts his wood about two feet to two and one-half feet long, and keeps his fire at the mouth of the arch. Some snow banks still remain by the side of fences. GRANITE.

Bloomfield, C. W., 4th mo. 20th, 1869.

BURNT AND RAW BONES FOR HENS.

Will it pay to buy ground bone at 4½ cents per pound to feed to hens, the object being the production of eggs? What is the difference in value between burnt or calcined and raw bones to feed as above. S. F. NYE.

Berlin, Vt., April, 1869.

REMARKS.—We think it will pay, if you cannot get them cheaper. Much is destroyed by burning bones, still hens eat them with avidity. We should not like to have our steak "calcined," and we think the gelatine, &c., in raw bones is valuable for hens.

CRACKING UP NEW THINGS.

I think friend Smith of Barre, Vt., asks a silly question about agricultural papers noticing new things. That is one of the best features of a newspaper. Would he prohibit people from advertising what they have to sell, or is he obliged to believe all they say? For one, I don't think the editor responsible for all the noise they make. I like to know what is going on, and to keep posted on things new and old. Others like your Extracts and Replies; and I am sorry that he is not suited. The more farmers write the better. They, and not the editor, are responsible for what they say. I am a constant reader of the FARMER, and have been for a number of years, and if any one has anything new to say, I hope he will out with it. The more we differ the more we shall learn. That would be a dull paper in which no difference of opinion or expression was allowed. Dont you think so, Mr. Smith? B. L.

Framingham, Mass., April 20, 1869.

TAPE WORMS IN SHEEP.

I would like to inquire of you or some of your correspondents the cause, symptoms, prevention and cure of the tape worm in sheep? I have lost several sheep this winter, one of which discharged a large worm several feet in length. Perhaps some of the others might have died from the same cause, but I did not make examination, owing to my ignorance of anything of the kind. I have recently learned that one of my townsmen has lost several from a choice flock, some of which had tape worms ten or even twenty feet in length. Is not this something uncommon? SUBSCRIBER.

Grantham, N. H., April 22, 1869.

REMARKS.—Mr. Randall says in the *Practical Shepherd* that he has never heard of but a single case of worms proving injurious in the intestines of sheep in this country. He however cites from Mr. Spooner a case in England where some fifty lambs laboring under a violent diarrhœa, were found to have large numbers of tape-worms—*Tænia plicata*—and several large round worms. A total change in the diet was made at once, and the following medicine given:—castor oil one ounce; powdered opium three grains; starch one ounce; boiling water sufficient to make a draught. Thin starch was given night and morning. The lambs improved. After administering this medicine four or five days a stimulant was given to destroy the parasites: linseed oil, two ounces; oil of turpentine four drachms. One dose only was given to some of them, others required two, and a few had three or four in the course of the following months, and then all were well. So much for book doctoring of wormy sheep. Who will help "Subscriber" to more practical information? The dictionary defines tape-worm as a "broad, flat, many pointed worm, often many feet in length." Does that correspond with those found in the sheep in Grantham? The books say that when the eggs of the tape worm are swallowed by the hog or other animal they hatch out and, like the *trichina*, find their way into the muscles, where they become cists or "measles." Then when these cists or measles are taken into the stomach they become the real tape worm, which sometimes attains the enormous length of 100 feet. We published last year, page 133 Monthly FARMER, and weekly issue of January 25, a statement by an Ohio farmer that on opening the intestines of one sheep that had died of what was supposed to be the pale disease, he found a worm perhaps one-third of an inch wide, with points about an eight of an inch in length, but which came apart so easily that he could not measure it, but supposed it was nearly forty feet in length. It was of a whitish color, slightly yellow. The part of the worm forward terminated in a point, and was round for perhaps fifteen or twenty inches. Several of his neighbors had also found similar worms in their sheep.

RAISING CALVES.

Almost every farmer has a way of his own for raising calves, and no doubt thinks it the best—at least I do mine--for I have tried all ways but feeding them hay tea.

If I can manage to find the calf before it has sucked, and I generally do, I take it away from the cow because, in the first place, the cow does not make half the fuss she would if the calf were to suck a week or so. I have cows seven or eight years old that never suckled a calf, and they make no fuss to speak of. In the next place the calf learns to drink quicker and better. I let it get quite hungry, then take some milk in a dish and with my finger [illegible] its mouth, put the calf's nose to the milk; but as soon as its nose is in the milk I withdraw my finger and it will soon drink. I have had them drink without further trouble by holding the dish to their mouth, so that the milk would touch their nose. In two or three weeks I turn them with my cows, and as they know nothing about sucking, and as the cow would not allow them to do so if they would, I have no trouble in letting them go to pasture together.

I agree with Mr. Hartwell in what he said in the FARMER of April 13, as to the milk, but as to grass I do not. I do not see why grass should be withheld from a calf more than from a colt or lamb. All farmers know that grass is necessary to make young animals grow, unless they have plenty of milk or meal.

I think new milk the cheapest, although it seems to cost quite a sum to raise calves on new milk when butter is forty cents a pound; but it does not cost so much to winter calves thus fed as it does those that are raised on skim milk. New milk calves do not stop growing when weaned; mine seem hardly to know when they are weaned, as when they are three or four months old I feed less every day, finally drop the morning mess, and feed them at night, only, for a few days. In that way they have a good appetite for grass and do well.

About three years ago a townsman happened at my place when my cows came from pasture at night. "Why," said he, "do you let your calves suck?" I told him my method of raising calves. The next year he told me that the information I gave him was worth fifteen dollars, as he raised five calves with the least trouble he ever had.

If these lines benefit any one I shall be satisfied, though it is quite a task for me to write. I see Mr. Hartwell is down on the swine, but I like good pork. C. F. LINCOLN.

Woodstock, Vt., April 26, 1869.

"CRACKING UP NEW THINGS."

As to your remarks on my inquiries of March 14, I have but a few words to say. I do not know as you could do any different than you do in regard to "new things." But it does seem rather hard for honest farmers to be so unmercifully swindled out of their hard earned money by designing men, who live and get rich on the sweat of the brows of somebody else. No class of men are so often humbugged and swindled as farmers, who are often induced to purchase by what they read in the papers about great labor saving machines, or some new kind of seed which is of inestimable value. This kind of swindle has run so high within a few years past, that I think it is the duty not only of *editors*, but of farmers generally, to caution the public against purchasing new things, till they have some proof that they are what they are represented to be. If this kind of humbuggery is continued it will soon be hard work to introduce anything new, however valuable it may be.

Barre, Vt., April 20, 1869. A. J. B.

Remarks.—We regret as sincerely as our correspondent does that our efforts to exclude fraud and humbuggery from our columns are not more successful. But from what department of government, from what association of men, from what town or neighborhood, even, are they successfully excluded? We thank our correspondent for his suggestions, and we invite him and all other farmers to use our columns for the exposure of swindlers, whether in new things or old, great ones or small ones. Give the blood thirsty leeches no peace.

BROOM CORN.

Will you give to the public as soon as may be, through your paper, a chapter on the *modern* mode of raising broom corn. All the particulars about the crop. so that a person who has never raised any may know how to proceed to insure a good crop, in a favorable season. Q. C. Rich.

Shoreham, Vt., April 26, 1868.

Remarks.—Mr. Charles Woodman of Livingston county, N. Y., wrote an article on this subject which was published last year in the *Country Gentleman*. He has raised from 150 to 250 acres a year regularly for thirteen years. The outlays in the busines are so great that he would not advise any one to go into raising it, unless he intends to keep it up for ten years at least. It requires a rich alluvial soil, free from stones. It is very fluctuating as to price. He had sold it as low as $100 per ton, and as high as $350. He thinks the net profits on the crop in the Genesee Valley are about the same as from Indian corn, or a little better. He thinks it can be raised at the West and South cheaper than in Central New York. He ploughs the ground "all he can" the fall before,—turning in the stalks, and in the spring puts it into thoroughly good order with the wheel cultivator or gang plough, and by the subsequent use of the harrow, "so as to make it very nice." It is then rolled with a light roller, after which a marker follows, having four pins, and thus marking off four rows, three feet apart. He then says:—

"There are three planters hitched to this marker, so that three boys, one man and a horse will plant fifteen acres per day. My machines drop once in eight inches, from eight to ten seeds in a place, so that it makes almost a continuous row. One bushel of seed will plant ten acres. The seed has to be well chopped and fitted for planting; it chops away nearly one-half. I begin to hoe as soon as I can trace the rows, and use the scraper, which throws the dirt in the center of the row; then the men hoe backward, only on one side of the row at a time, drawing the earth from the corn. As soon as three or four days, I put on the roller, and roll down the ridge, and then I follow with a light cultivator throwing the dirt a very little among the corn. The next week go through again, throwing it a little more against the corn. I keep my horses in it until it is as high as five or six feet; I then put in the hiller, and pack the dirt hard against the corn, and it is done until harvest time. At harvest, the stalks are broken over about six feet high; three rows are cut and laid in one, so that the horses straddle the row, and we can load upon each side of the wagon. The wagon boxes are fifteen feet long and three feet high. When drawn to the barn, it is sorted into handfuls by women; then scraped in the cylinders, and carried into sheds and laid on poles about four inches thick, to dry. When dry, I take it down and press it into bales of two hundred pounds and up to two hundred and fifty, and it is ready for the market. It is fair corn when three acres give one ton of brush. It takes about two and a half days work per acre to hoe it, and three days work to cut it."

PUMPKINS ARE PROFITABLE.

In reply to the question of "Nat," about pumpkins being profitable, I would say, procure seeds of a good quality, and from a different locality,—for like all other vegetables, pumpkins need a change of locality,—then after having planted the field of corn go over it with the pumpkin seeds and put one or two seeds in one hill out of each four; and, near the border or edge of the field, in every other hill. Those on the outer rows, by running out where they will receive more sun and air, will do the best and may be planted more thickly. Not only in the corn field, but also in the "potato patch," can good pumpkins be raised by planting them near the edge or in the outside row, or anywhere in the field, by giving to each vine the space allowed to a potato hill. They must be looked to occasionally and the bugs destroyed, remembering to nip the ends of the vines after well "set." If the season is favorable, and these directions followed, I think that "Nat" or any other farmer will find that it is profitable to raise pumpkins with corn.

B. W.

East Westmoreland, N. H., March 5, 1869.

RAISING CORN IN SOUTHERN MICHIGAN.

Brother farmers, as it is getting time to look round and see how much and what crops we shall put in this season, I will tell you how we raise corn in southern Michigan, and what mine did last season. We turn over the soil in March and April. We do not use any manure, as most of the farmers think it worthless, or too much work to haul it out. We mark the rows four feet each way, and plant from the first to the fifteenth of May. As soon as we can follow the rows, take an A harrow made for the purpose, with handles somewhat like those of a plough, put on two horses and go through both ways, and with a little practice we can run it very close to the rows. The object of putting on two horses is to use a heavy harrow, which by taking out the front tooth will go astride of one row, and thus cultivate two rows at once When the corn is about eighteen inches high, take a double shovel plough, which throws the soil to the hills, doing all the hilling necessary, and killing the weeds, if there are any, entirely. Last fall, when harvesting my corn, I measured off one acre of a twenty-acre field as near an average of the whole as I could, and I got 98½ bushels sound corn, beside the soft corn. A part of the field was worked but once. I intend to keep an account of a ten-acre field this season, and report this fall what it costs me by the bushel. We practice rotation in this section: first corn, then peas, then wheat, and stock with clover invariably.

L. M. Briggs.

Hudson, Michigan, April 3, 1869.

NORTH CORNWALL, CONN., FARMERS' CLUB.

Twenty-five years since, the farmers of North Cornwall, Conn., organized a Farmers' Club, which for the first two winters was held in the district schoolhouses. Afterwards it was held in the houses of its members, and then not only the farmers themselves, but their wives and sons and daughters were present at these meetings.

A few incidents in the history of this society will, I have no doubt, be of interest to some of the readers of the NEW ENGLAND FARMER. The first proposition for a Connecticut State Agricultural Society was made in this Club. A committee was appointed to present the subject to the Litchfield County Agricultural Society and request their aid.

After the proposition was made, the Litchfield Society appointed a committee to confer with other county societies and request their co-operation. Most of these societies were found ready to co-operate, and in due time the State Society was organized. The member who made this proposition, Mr. T. L. Hart, was successful in obtaining the four first premiums offered by the society on cheese, amounting to thirty-two dollars.

Another proposition was made and a vote passed by this club, that each member of the club should set out in the highway at least five shade trees each year, until his highway was filled with good thrifty young trees. The member who made this proposition has his highway nearly filled with about two hundred trees, all growing and thrifty. Other members have set out in numbers varying from fourteen to fifty or more. Would that all farmers would follow this example.

At a late meeting the club passed a vote to celebrate its twenty-fifth anniversary, or in modern phrase, have a sort of silver wedding. It was arranged that this meeting should be held at the house of Mr. T. S. Gold, its Secretary. About one hundred and fifty members and invited guests were in attendance, and after mutual congratulations and introductions, the meeting was called to order, and after a review of the history of the club by its secretary, the members and guests sat down to a most enjoyable repast provided by the society. After the repast, short speeches were made by various persons present, and the meeting broke up at a seasonable hour, with the best wishes of all present for the future prosperity of the "North Cornwall Farmers' Club." A MEMBER.

SEASON IN SOUTHERN NEW YORK AND VERMONT.

I have just taken a flitting through the States of Vermont and New York, and have been thoroughly surprised at the great difference a few miles can make in climate and vegetation. In the Schoharie Valley, N. Y., the farmers are busy planting. Asparagus and peas are already an inch out of ground, and winter wheat is very promising. Mayflowers and butterflies are abundant, and all nature is rejoicing at its release from the icy bonds of winter. But in Vermont, they scarcely think of even ploughing, the weather is still so cold and the snow so deep. We endeavored to reach Bondville, but not even a horse could be hired to convey us from the depot at Manchester. The stage had been obliged to suspend its accustomed trips, and the mail had been conveyed on the back of a resolute man for several days. "Twenty feet in some places, and you will slump clean through if you try it," we were told. Where there's no snow the freshets have overflown cornfields, potato-fields and meadows, and many houses and barns are, like islands, "entirely surrounded by water." All the farmer can do is to smoke his pipe and resignedly wait for the waters to subside. One farmer thinks he may get his plouging done by July. For many years the season has not been so backward as this and last spring. But people live to a great age among these green hills. Open fire-places or wood-stoves, early hours, fresh air and hard work, develope muscular strength and longevity. I found people aged seventy, eighty and ninety. One old lady of seventy, looking not a day older than fifty, told me about her mother, only *one hundred and one*, and who is "as chirk as ever you did see a' most," she says.

These hills are full of excellent white marble. In Manchester and Dorset the depots are surrounded with it in blocks, shafts and slabs boxed for transportation. To one who has always regarded marble as a "precious stone," its use for garden and street side walks, even for cellar walls and fences, seemed extravagant and wasteful.

May 1, 1869. SUSIE VOGL.

ROSE BUGS.

Permit me to say to your correspondent who is troubled with rose bugs, that I find it an easy matter to keep four or five hundred vines entirely clear of those pests. I have also about twenty common blush roses. I go out early in the morning, with a pail and pick roses and bugs together, as nearly all the bugs will sleep in the roses. Ten minutes is time enough to go through the whole. Follow this a few years and you will exterminate nearly the whole of them. P. B. FOLLANSBEE.

Lawrence, Mass., April 26, 1868.

REMARKS.—This corresponds with our own experience; but instead of doing all the work ourselves, we paid the children a small price per hundred for rose bug scalps.

A COW SUPPOSED TO BE MADE SICK BY EATING PUMPKINS.

Can you or any of your correspondents give me a remedy for a cow that has been sick all winter? Her sickness was caused by eating pumpkins last fall. Her bowels have been very much relaxed, probably one-third part of the time; especially if she eats any early cut hay, or succulent food of any kind, the disease will return. Several of my neighbors have lost stock by this disease, and it is here considered incurable. A SUBSCRIBER.

Tunbridge, Vt., April 24, 1869.

REMARKS.—We doubt whether the disease was caused by eating pumpkins. As some of the neighboring cattle have the same disease we should think it epidemic. Give her powdered chalk in her feed, and once a day a quart of lime water in her drink. Have no cows had the disease except those which eat pumpkins? Were the pumpkins rotten or frozen?

PARSNIPS.

Please to inform me of the best way of raising parsnips; also the quantity of manure per acre, how deep the soil should be ploughed, and the time of planting, and oblige an old subscriber. A. I. TABOR.

Holliston, Mass., May 7, 1869.

REMARKS.—We have found parsnips as easily raised as any other roots—more easily than most. The land should be worked as deeply and as highly manured as you can afford. The seed should be sown as early in the spring as convenient, though good crops are grown when put in as late as the middle or last of May. Make the drills about eighteen inches apart, and sow at the rate of five or six pounds to the acre.

Ladies' Department.

From the Home Journal.

GOD'S ALMONER.

A maiden fair once said to me,
  Surprised at my too bold advance,
"You need the grace of God I see—
  You false knight with the broken lance;
Man's own deserts have never won
A woman's worthiest benison."

Alas, too true, my heart replies,
  But this great truth sends back to her:
In this sad world no man denies
  That woman is God's almoner,
And her's the mission high to fill—
To grant his grace almost at will.

One-half the Christian world to-day
  Will bow at sacred Mary's throne,
While all the other half will pray
  Each to a Mary of his own—
Nor pray in vain, for God will be
Within His highest mystery.

He lives and moves in noble hearts,
  His grace abounds in woman's breast,
And her warm love His love imparts
  To all whom it hath truly blessed:
How many a fiend the world hath known,
Who, truly loved, a saint had grown.

Come, then, Grand Almoner of Him
  Who made the heart and knows its need:
Come, sacred woman! Seraphim
  And angels hear for what I plead,
And they will hold their sister true
  Or false by what I gain from you.

DOMESTIC ECONOMY;

OR,

HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

CHAPTER XV.—Concluded.

Food and its Preparation,—[Continued.]

Since the introduction of tartaric acid—cream tartar—into cookery, to assist the fermentation of dough, the heavy paste puddings for fruit, apple-dumplings included, have greatly improved.

The best way of making this style of pudding is to prepare a paste according to the rule given for making cream-tartar biscuit in Chapter XIV. Roll this into an oblong form and spread into a deep dish or bowl which has been buttered,—there should be sufficient paste hanging over the edge of the dish or bowl to cover the top. Fill in the fruit in layers an inch thick, between which scatter a little ground cinnamon or grated nutmeg, then sugar, a cupful will be needed for cut rhubarb, peeled and sliced raw apple, gooseberries or currants; other berries, cherries, peaches and pears require less sugar. Fresh or canned fruit is best for these puddings; but dried apples, peaches and berries, are quite nice if well swollen before they are used. All filling but apples will need flour shaken upon it, enough to cover it like a coat of thin frosting; this is for thickening to the syrup. Then wet the edges of the paste with cold water and flour them so that they will adhere closely; fold them in; press them tightly together in the centre.

Have ready a bag of thick crash, like that for holding the ashes for samp, mentioned in a former portion of this chapter (except that the corners are made round by stitching the seam in curved lines.) Wet this bag, turn it wrong side out, shake flour upon it from the dredging-box, and then turn it again. Fold back the top half the length of the bag and fit the bottom into a large bowl. Invert this over your pudding in the other bowl or dish, and carefully tip the pudding into it. Wind the string around the bag (leaving an inch and a half of space to allow for swelling of the paste) and tie it as tight as possible—lest it should get water-soaked. Place a saucer in the bottom of the dinner boiler, which should be half full of boiling water and plunge in your pudding.

Never put a pudding of any sort into water that does not boil—it is the very way to make it heavy. For the same reason nothing but boiling water should be used to supply the loss by evaporation. This must be poured in every half hour. See, too, that the fire is hot enough to keep the pudding boiling continually till it is done. An hour and a half is needed to boil a pudding made of a quart of fruit. If made in the form of a roll, with the paste spread long and narrow, and folded over and between the layers of fruit, and placed in a long bag, one hour will cook it.

For apple dumplings: take a piece of this paste about as large as an egg, roll to a round shape six inches in diameter, place in it the four quarters of an apple, a teaspoonful of sugar and a very little spice; close the paste tightly; and tie a dumpling thus made in a small napkin that has been wet and floured, or take a large pudding-cloth—thick white drilling or crash—and tie one in the centre and one in each corner. Use the same precaution for catching and burning at the bottom of the boiler, and fill in boiling water as for a pudding. Three quarters of an hour will cook these.

Paste puddings are better boiled in a tin mould, —best *steamed*, the same dish in which they are formed being set in the steamer at the top of the boiler; or the fruit may be placed in a dish with sugar and spice, the paste over the top only, and the dish set on the back part of the stove with a tin pan inverted over it and thus cooked by its own steam; half an hour will suffice to cook it thus.

A nice paste for puddings may be made by mashing and rolling boiled potatoes upon the moulding-board till free from lumps. Mix with six potatoes half a cupful of cold water in which is dissolved half a teaspoonful of salt. Stir it all together;

then add flour till you can mould it with your hands. If you wish for a very rich paste, mix with the rolled potatoes a cupful of chopped beef-suet, but it is good enough without. This is excellent for apple, peach or pear puddings.

Paste puddings should be kept hot till they are eaten, be sliced with a *warm* knife, and served with hot sauce.

Batter puddings of flour, ground rice, or bread crumbs, or crackers—with raisins, berries, or cut peaches, apples or pears, should be made of cold milk, eggs—three to a quart of milk—beaten very light—the batter just thick enough to pour easily into the bag for boiling, or a well buttered dish for baking or steaming. One made of a quart of milk, &c., will require two hours' boiling or steaming, one hour's baking.

All broken slices of bread and crumbs from its cutting should be carefully saved, slowly dried in a cool oven and kept for making batter puddings, stuffing for poultry, fritters and omelets. When used they may be soaked in cold milk or water over night, and in the morning mashed very fine with a wooden spoon. If suddenly needed this dry material can be pounded and immediately used as thickening for the batter. A pudding of cracker or bread crumbs can be made and baked in half an hour. Dry gingerbread and cake may thus be used for fritters and puddings. But care should be taken to pulverize it quite fine, or the cook may have the mortification which not long since fell to the lot of a young woman, who, while attending a boarding school conducted on the manual labor plan, having assisted in preparing dinner, was told by a guest that he preferred raisins to doughnuts as plums for his puddings.

A cake pudding, made of equal measures of flour, milk, sugar and beaten eggs; with half the measure of butter or salted lard; soda and cream-tartar in the proportion for biscuit; baked or steamed an hour, and eaten with sweet sauce flavored with lemon juice or wine, is very nice. A plainer pudding of the same sort is made without eggs; with molasses and water instead of sugar and milk; spiced with cloves, cinnamon and nutmeg, the other ingredients being the same; and served with cold sauce. It is a very desirable dish.

A stale loaf of bread tied tightly in a pudding-cloth and boiled an hour, may be turned out for a pudding; to be eaten with hot fruit sauce. Alternate layers of freshly crumbed bread and sliced apple, with sugar and spice between, arranged in a deep dish, with crumbs for the top layer, a tin pan inverted over it, and steamed thus in the oven, is also a nice pudding. Or a deep earthen pan may be lined with buttered slices of bread, and the apple in layers with similar slices, sugar between them, the juice of a lemon squeezed over; and then a crust of bread for the cover. Two hours will cook these puddings. They need no sauce.

Custard puddings are made precisely as custards or custard pies without crust; except that half the number of eggs may be omitted, and in their place the same number of tablespoonfuls of corn-starch, potato-starch, maizena, farina, ground rice, or sago substituted. Whole rice, after it is steamed, with the addition of a cup of milk and a teaspoonful of sugar for each cup of cooked rice, slightly spiced, and then steamed or baked for half an hour, is an excellent dish. A plain sago pudding—the sago washed and mixed with water (a cupful to a pint of water), sliced apples, or raisins, or prunes added, and baked three-quarters of an hour in a moderate oven, is very good with a hot sweet sauce flavored with lemon, or currant wine; or, the sago may be used as the cooked rice, just mentioned. To both of these, eggs are a great improvement,—they should be lightly beaten and added when the dish is all ready to be baked. Tapioca, soaked in warm water an hour,—one cupful before soaking being a good proportion for a quart of milk, a scant cup of sugar, and the yolks of four eggs well beaten,—flavored with lemon or vanilla, and baked three-quarters of an hour, is a very nice pudding. Beat the whites of the eggs with a tablespoonful of sugar till they are a stiff froth, and lay it on the top of the pudding to brown in the oven fifteen minutes before taking it up.

Blancmange is also an excellent and simple dish. Those who have plenty of milk should consider this a regular article of diet, it is so easily prepared and so nutritious. Let evening milk be closely skimmed the next morning, and reserve the cream to eat upon the blancmange. For two quarts of skimmed milk put a cupful of dry Iceland moss to soak in warm water, after it has been carefully washed and all impurities picked out. (Those who live near the seashore can get plenty of this moss after a storm. No matter how dry or how brown it may be, it will bleach by washing and spreading it on clean cloths in the sunshine for a day or two. It is sold by druggists.) Soak it two hours, then put it into the milk, and with it three or four peach leaves or a stick of cinnamon. Set this in a tin kettle, or pail, in the dinner boiler that is half full of boiling water, and keep it boiling from half to three-quarters of an hour. You can tell if it is done by taking a little into a cup and placing this in cold water. If it cools to the consistency of custard, take it from the kettle, and pass it through a hair-seive or a finely perforated strainer into crockery moulds or bowls that are wet with cold water. If it is not stiff enough to take form, boil it a little longer. Let it get cold gradually. Eat it with cream and sugar and very ripe berries, or other fruit—peaches and melons are best. Corn starch or gelatine may be substituted for the moss, but they are not so good.

Flummery of corn-starch, ground rice, or tapioca is quickly make: Mix four tablespoonfuls of either of these (of the rice, six) with half a pint of cold milk; pour on this a pint and a half of boiling hot milk; stir it well, adding a little salt. Set it on the back part of the stove; let the mixture boil thoroughly three times; stir it well between the boilings, then add six drops of lemon, vanilla, or almond extract. Pour it into a wet blancmange mould and set it in a cool place. In quarter of an hour turn it out and take it to the table, with milk and sugar and preserved fruit or jelly. In winter, a fanciful dish for dessert called snow flummery may be made thus: Beat two eggs (one will answer) with two spoonfuls of sugar; add to this a pint of milk, flavored with lemon. Then stir in new fallen snow till it is thick enough to take form. Put it into a crockery mould. Let it stand two or three minutes; then turn it out and take it to the table.

In making whips, the eggs should be rapidly stirred in strokes from left to right, (not all around the dish)—just under the surface; the foam taken off as it accumulates, then lightly mixed with jelly. Powdered sugar and cream may accompany them, or sugar may be whipped with the eggs.

Frozen puddings are of nice batter or custard, thoroughly scalded by heating to a boil and kept thus five minutes; then frozen in the same manner as ice-cream. If you have no freezer, a tub, or large pail, with a closely covered smaller pail will answer. Put the material to be frozen in this smaller pail—be sure that its cover fits tightly, or the salt freezing mixture will get in and spoil it. Set this in the centre of the larger vessel. Put your ice in a thick bag and chop it there with the head of a hatchet, or pound it with a hammer, to pieces the size of a large egg,—the greater part of it somewhat smaller. Take of this six parts, and mix with it one part of coarse common salt. Fill this in between the two pails, till within two inches of the top of the smaller one. After it has stood five minutes begin to move the inner pail around, and from left to right, holding it firmly by the handle of its cover. Keep up this movement a few minutes; then (being careful that none of the icewater gets in at the time) open the pail, and with a knife loosen the frozen portion adhering to the sides and stir it lightly with the unfrozen; then close it again, and go on shaking the pail around and opening it occasionally to loosen and stir the material till the whole mass is frozen. Keep the tub covered with something woolen—an old shawl, or blanket—till the pudding is wanted at table. Ice-creams, as mentioned above, are frozen in the same way. They are only custards, in which corn starch may be entirely substituted for eggs—one spoonful for one egg—or, half of each may be taken. Flavor it with the juice of fruit or extracts. Take it into moulds a few minutes before it is wanted; from which turn it when carried to the table.

It is sometimes so difficult to get real cream that an imitation article is acceptable. It is made thus: Heat a quart of milk to boiling. Beat two eggs, (one will answer, using more flour) a tablespoonful of flour or cornstarch, a piece of butter an inch square, and a teaspoonful of sugar, till thoroughly mixed; then pour the hot milk upon it—stirring it well. Return it to the kettle, let it boil once, and then set in a cool place till wanted for the table. Cream sauce, for puddings, is made by scalding a pint of milk and stirring into it two eggs that have been beaten with a cup of sugar. Two peach leaves may be boiled in the milk; or rose water (a teaspoonful), or a few drops of any fruit essence added.

Berry sauce: To a cup of cold water put a quart of cranberries, blackberries, raspberries, or strawberries. Boil them till they can be mixed easily with the water. Rub through a hair sieve,—sweeten it to your taste. To make a hot sweet sauce: Mix a tablespoonful of flour with two of cold water; pour upon it half a pint of boiling water. Then boil it three minutes. Add next one cup of sugar and a teaspoonful of butter. Boil this the same time. Then squeeze in the juice of a lemon or orange, or flavor with two tablespoonfuls of currant wine, or a few drops of any extract. Cold sauce: Beat together for five minutes two eggs, two cups of sugar, and one cup of butter; with a few drops of essence or extract.

These different methods of making puddings and their sauces (all of which I have found excellent) will certainly furnish any family with sufficient variety to place a nice and wholesome dish every day upon their dinner table. No matter what other food may be indulged in, this should be a sure thing to be anticipated, especially by the children. The chapter upon cooking vegetables and meats, and the making of pickles, etc., must be deferred for the present. Next month we will talk about House Cleaning and its attendant operations.

For the New England Farmer.

FARMERS AND FARMERS' DAUGHTERS.

Mr. Editor:—I notice in the Farmer of April 3, an extract from one of your correspondents, relating to girls on the farm, with some remarks by yourself. I like your comments very much, and although unaccustomed to write for publication would like to say a few words.

The idea seems to be very prevalent that farmers and farmers' families must necessarily be inferior in intelligence, refinement and social position to other classes. If a farmer's daughter chance to go away to school, to play the piano, to embroider, be versed in any of the fine arts, she is thought to be getting "above her position." Is a farmer's daughter supposed to have no nobler powers, no loftier aspirations than are required for washing dishes or scrubbing floors? Is she, reared among nature's wonders, finding on every side side food for thought and study, ever called upward by nature's ten thousand voices around her, supposed to have no love for the beautiful? If she has talents, why not cultivate them? Not to the exclusion of other duties, but giving due attention to household affairs, and employing leisure hours in the perhaps more congenial pursuit of improving the mind and acquiring those accomplishments which add a charm to the home circle, thus combining the useful and the beautiful in one harmonious whole. Why should not her father, as he sits down at night, wearied with the labors of the day, listen to the refreshing strains of music, and feast his eyes upon the tasteful home decorations, devised by her fancy? Why should she *not* embroider, and ruffle, and dress fashionably? Would you have her render herself conspicuous by dressing differently from her associates, by keeping several years behind the fashion, or by wearing nothing but the plainest material?

Although, as your correspondent suggests, a few superficial acquirements may tend to elevate one in her own estimation—and cause her to look down upon former companions and former pursuits; a *true* education would have a very diverse effect, leading her to view the knowledge already gained, as so slight in comparison with the vast amount yet unknown as to leave little room for egotism and bigotry. I do not think that politeness and accomplishments are at all incompatible with an ability to properly direct the management of a household, and think it unfair that such descriptions of farmers' families, as are sometimes given, should be allowed to prejudice our city friends against those, of whom, personally, they know nothing. Perhaps, if public opinion were less against farmers and farming, the boys and girls might not be so ready to leave the old homestead for villages or cities. I think our agricultural schools and colleges will produce a reform in that respect, and elevate the farmer to his proper position.

The majority of our farmers do not take sufficient pains to make their homes *attractive*. If their buildings and fences are in good condition, and their yards neat and clean, they think that enough; but how much they might be improved by the addition of a few ornamental trees and shrubs, or by some fanciful improvements! Nor need ornamental trees necessarily be useless except as ornaments. Who would not admire in a front yard, a well trained pear tree richly laden with fruit? What more beautiful vine for a house than a grapevine trained upon a suitable trellis, with its beautiful, fresh green foliage, and its still more beautiful clusters of purple fruit? These are ornaments, and *paying* ornaments. J. N.

Reading, Mass., April 17, 1869.

DOMESTIC RECEIPTS.

Breast of Mutton a la Bourgeoise.—Take a breast of mutton and put it into a stew pan with water, a glass of white wine, some parsley, chives, a clove of garlic, two cloves, pepper and salt. Let it simmer slowly till done, then strain the sauce, and add to it some butter mixed with flour; put it on the fire to reduce, and strain off the grease; add the juice of a lemon or a spoonful of vinegar, and serve the sauce round. The mutton should be boned first. A nice fillet can be cut off the upper part of the leg if required, and the upper part may be plain boiled and served with sauce made with butter thickened with flour, to which add some green paisley chopped fine, and either capers or pickled gherkins, fine or chopped.

Good Rusk.—One pint of new milk, one pound white sugar and two eggs beaten, stir these up with some flour into a sponge, add yeast and set to rise at night. When light next day add sufficient flour to make a soft dough and let it rise, then mould in pans, and when light, proceed to bake. Add a tablespoon of melted lard or butter to the sponge.—*Germantown Telegraph.*

Cocoanut Cake.—One pound of grated cocoanut, one pound of sugar, half a pound of butter, six well beaten eggs, and half a pound of flour; add the cocoanut to the cake just before it goes into the oven.

Cream Pies.—Four eggs beaten in a half pint of cold milk, with six large tablespoonfuls of flour, a teacupful of sugar, a little salt. Heat one quart of milk nearly to boiling, then stir the eggs, etc., into the milk and stir rapidly until it thickens. Add one teaspoonful of lemon. Make the pastry as for custard pies. When done, pour the cream on the pies and set away until cool.

Corn Meal Pudding.—Take five eggs, beat well separately, three tablespoonfuls of sifted meal, three tablespoonfuls of sugar; beat all well together, putting in the whites last. Bake three-quarters of an hour.

A **Delicious Dessert** is made as follows: Put a small teacupful of tapioca to soak for a few hours in warm water. Pare six or eight good cooking apples. Core without dividing, and fill the holes with sugar and a little lemon juice, or grated nutmeg. Pour the tapioca mixture around the apples, grate a very little nutmeg over, and bake an hour, until done; serve with sweetened cream.

THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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MONTHLY.

SIMON BROWN,
S. FLETCHER, } EDITORS.

WORK IN JULY.

The poetry of earth is never dead;
When all the birds are faint with the hot sun,
And hide in cooling trees, a voice will run
From hedge to hedge about the new-mown mead;
That is the grasshopper's.
—*Keats.*

SECURING the hay-crop is the prime work of the month of JULY, in New England. It is generally considered the most valuable crop of the Northern and Middle States, and farmers usually get as much other work as possible out of the way, so as to give it all the attention which its importance demands.

In noticing the duties which are peculiar to the months as they pass along, we do not care to engage in any discussion as to the best modes of preparing soils or securing crops, and we, therefore, only suggest here what we have urged at some length in other columns, that the farmer give especial thought, this season, as to the time and manner of securing his hay. That he will make some experiments in cutting early and curing as much as possible in the cock. When he has done this his observation must be extended to feeding it out, and observe whether the stock eat the hay with greater relish than they do late cut grass, and whether it makes more milk or flesh, other things being equal.

The idea of cutting grass two or three weeks earlier than the old practice has been, will be a new and startling one to many, and if it is a good idea it ought to be confirmed by the experience of thousands of our farmers. We hope the readers of these columns will give the matter especial attention and report to us by the score the conclusions at which they may arrive.

Devoted to the hay harvest as the month of July mainly is, there will be other *unfinished* labors calling for attention, that cannot be neglected without loss.

If haying is commenced earlier, it will necessarily find the *hoeing* in an unfinished condition. This must receive attention, or the great labor required in seeding would return but a poor reward. The process of hoeing is a process, indirectly, of manuring, and ought in all cases to be done faithfully and in suitable time. If the surface soil becomes dry and hard, like the skin of a "hide-bound" ox, the plants standing in it will grow slowly, if at all, and would probably be in a condition similar to that of such an animal at the ingathering of the crops. Instead of profit there would be loss, and it would be better, therefore, that the crop had not been put into the ground at all.

If the duties, then, of hoeing and haying come at the same time, the farmer must act in the exercise of a wise judgment. In such a case no rule could be absolutely applied. The circumstances would vary on every farm. Sometimes by adding new force for a day or two, or pressing on with the usual force for two or three days, the hoeing may be brought up, so that the crops may then be attended to as their condition requires. The farmer will remember, in the case of hoeing, that a year's seeding will make many years of weeding, and this fact must be taken into consideration, as well as that of loss of crop.

CULTURE OF ROOTS.—We still advocate the culture of roots for winter food for stock. We have recently seen two herds of cows, which are fed much alike, with the exception that in one herd each cow has had a peck of mangold wurzels daily since the first of March, and the cows of the other herd had none. Those having the roots have continued in yielding large messes of milk now, at the end of nine months, while the others have fallen off to one-half that amount.

We cannot judge of the value of roots for stock by the mere amount of nutritive matter which they are found to contain by an analysis. They have a value entirely beyond that. It is probable that men, or the bovine race, would live for a long time on boiled potatoes, and yet by the analysis, the potato has only *seventeen* parts of nutritive matter, and eighty-three parts of water!

The use of roots for stock undoubtedly has a decided influence in the stomach upon other articles of food, and conduces to the most perfect digestion and assimilation.

There is no food in which cattle delight so much, and on which they thrive so well, as short, sweet, succulent grass. This is as full of juices as a nut is of meat. We cannot have this the year through, but are obliged to feed them upon long grass, in a dry form, and too often upon that which had exhausted its juices before it was cut. This is their principal food, week after week, and month after month, in this climate, during a considerable portion of the year. Can there be a doubt, then, that fresh, juicy roots are not only grateful to the beasts, but that they are actually very important in point of health, thrift and profit? We do not believe that there can be a reasonable doubt about it.

With the tools at hand to aid in their culture, and the enlightened modes of doing so, which have been introduced, we have no doubt but that they can *profitably* be raised by most farmers.

It is not too late to put in any crop of the turnip family in the early part of JULY, and we hope these suggestions will induce many to try the experiment.

For the New England Farmer.

THE GARDEN IN JULY.

During the month of July, when haying and harvesting seem to demand the entire energies of the farmer and his help, it will require no little appreciation of the value and usefulness of a good garden to induce him to pay any attention to it; and, consequently, there is danger of its being neglected. July, in our New England climate, is a growing month for vegetation, and especially for weeds. They *grow*, if nothing else does; and every day that they are suffered to occupy the soil, the more difficult it is to exterminate them, and the more they steal from desirable crops. It is better to employ an extra hand than to leave the garden and its productions, on which we have expended two or three months' labor, to neglect and loss.

If the garden has been well cared for up to the present time, a few moments in the early morning or at the close of the day will be sufficient to keep the weeds down and the plants vigorous. Most plants are better for having the soil stirred around them while the dew is on, provided care is used in not getting dirt on the foliage. The morning is also the most favorable time to destroy many kinds of insects and worms. As our mowing is now done by the machine, there is not that need of commencing so early in the morning that there was when only the hand scythe was used. Besides, grass cut after the dew is off will cure quicker, and be ready sooner for the barn, than that cut wet with dew. Encourage the boys to work in the garden,—encourage them to cultivate a taste for gardening and rural pursuits, by giving them a portion of the garden for their own use, or a portion of the products of the garden, provided they tend it well, and pay them a fair market price for all they raise, and not, as is sometimes done, offset it against some former favor, or forget to *pay* them at all.

ASPARAGUS.—The season for cutting is now over, and the bed, very likely, is covered with grass and weeds. A little time now devoted to clearing it and applying a dressing of some suitable fertilizer, and working it in lightly and carefully will be richly repaid next spring in increased productiveness and freedom from weeds.

BEANS.—The first crop of Dwarfs will now be in their prime, and the succession coming forward, more may be planted, if desirable, for late fall use and for canning. See to and train the running sorts to the poles.

Hoe and keep them well cultivated, when not wet.

Beets.—Keep them well hoed and thin out to six or eight inches apart. As the early crop comes into use, save at least one of the best and earliest to grow, and retain it for growing seed from next year. If the prospective winter crop seems short, "Early Blood Turnip" may yet be planted with a certainty of a fair crop, if sown in rich, warm soil and *well* tended.

Celery.—Plant out in well prepared trenches, shading if the weather is hot. Give abundant watering, if the weather is any ways dry, and the soil well drained. Keep clean of weeds and cultivate *well*.

Cucumbers may yet be planted for pickles, on well prepared, warm, quick soil. Hoe those already up, and protect them from the "striped bug" and other enemies.

Manure.—Throw all weeds, potato tops, turf sods, and anything capable of decomposing into plant food, into the compost heap, and pour over it the house slops, soap suds, &c.

Melons.—Destroy the bugs and thin to three plants to a hill. Keep them clean of weeds, by hoeing and pulling the weeds by hand.

Potatoes.—It is better not to hoe them much after blossoming, but to keep them clean of weeds by pulling and cutting them. Make the hills large enough and high enough to cover all the growing tubers, or they will be greened and injured for eating. Early planted should furnish us good boiling sized tubers during the month. Select for digging, hills having the fewest, largest and most mature tops, as they will be likely to contain the most mature potatoes.

Tomatoes.—After blossoming and setting fruit, pinch off the ends of such shoots as contain the fruit, and train the vines to trellises, or lay brush to keep them up from the ground Early ones will begin to ripen during the month.

Turnips.—The Ruta Baga and Sweet Russia should be sown early in the month; Yellow Aberdeen about the middle of the month; the other soft English turnips from the 25th to the last of the month, or, in good soil and favorable locations, as late as the 10th of August will answer some seasons.

W. H. White.

South Windsor, Conn., 1869.

For the New England Farmer.

BIRDS ON FARMS AND ORCHARDS.

I was about to reply to some remarks on this subject in the Farmer of May 22, when I fell upon the enclosed, which is to the point, and I would ask you to publish it in the Farmer.

Birds on Farms and Orchards.

An extensive experiment has been made on the Continent, the result of which has been the opinion that farmers do wrong in destroying crows, jays, &c., and the small birds on their farms, especially where there are orchards. That birds occasionally do mischief amongt ripe grain, there can be no doubt; but the harm they do in autumn, is amply compensated by the good they do in spring, by the havoc they make amongst the insect tribes. The quantity of grubs and bugs destroyed by crows, and of caterpillars and their grubs by various small birds, must be annually immense. Other tribes of birds which feed on the wing, destroy millions of winged insects, which would otherwise infest the air and become insupportably troublesome; even those usually supposed to be mischievous in gardens, have actually been proved to be innocent, for on examination they have been found to destroy those buds only, which contained some destructive insect. On some very large farms, the proprietors determined a few years ago, to offer a reward for the heads of crows, but the issue proved destructive to their farms, for nearly the whole of their crops failed for three succeeding years, and they have since found it necessary to import birds to restock their farms! And of late years, the extensive destruction of the foliage and young fruit trees in orchards, by a species of caterpillar, has excited the attention of the naturalist; and it has been found to have arisen from the habit of destroying those small birds about orchards, which, if they had been left unmolested, would have destroyed or kept down these destructive insects.

Every crow requires at least one pound of food a week, and nine-tenths of their food consists of worms, grubs and insects; one hundred crows then, in one season, destroy 4780 pounds of worms, grubs, insects and larvæ. From this one fact, some slight idea may be formed of the usefulness of this much persecuted bird, the farmer's best friend; but a thousand more well-attested facts might be stated to show the value of birds to the farmer, if more were needed. Let then, every farmer, and every one who is interested in the labor of the farmer—and who is not? do what he can to protect them, and the face of the country will no longer present the appearance of a scorched and blasted wilderness, but will preserve its beauty to the eye, and the trees will produce their fruit in season.

Early the other morning a pair of the Baltimore Oriole (Gold Robins,) attacked a nest of young caterpillars on an apple tree near the window where I am writing. No gourmand was ever more zealous over a broiled Ortolan or an edible Birdsnest, than this pair was in breakfasting on the young caterpillars. But one nest was not sufficient. After utterly demolishing the first, they visited another, and were still breakfasting when I left to get mine. Kill the birds! When you do it you empty your purse! Let 'Em Alone.

Essex County, Mass., 1869

Remarks.—Our own opinion, which has been often expressed in these columns, is that crows are of more benefit than injury in the world. Still the question of the balance of the good and evil which they and other birds effect on the farm is not one to be settled by an editorial *ipse dixit*. Others may differ from us, and possibly we may see cause to change our opinion. In the last number of the *Boston Journal of Chemistry*, Dr Nichols says some hard things against the birds. Last year they took all his cherries, many of his strawberries, and all of his Delaware grapes, and his neighbors were subject to similar losses. He says "birds were never so plenty in New England as during the past five years, and the ravages of insects and worms never were more disastrous than during that period," and he thinks the time has come when the birds must be thinned out, in order to save our valuable fruits.

On the other hand, Mr. S. D. Greenleaf of Starks, Me., writes to the *Maine Farmer* that he thinks farmers are doing themselves an injury by declaring war against the crows. The only damage they have ever done to his crops is in pulling up some of his corn, for which he finds the following remedy cheap and sure. He says:—

> I sow evenly over the ground about three quarts of shelled corn to the acre; upon that and what insects the crows devour while travelling over the ground, they subsist, without disturbing the young corn. I take a walk every few days over the fields, to see if the corn I sowed is all gone; if so, I scatter more, as in the first instance, and pursue that course until the young corn is so large that they will not meddle with it. I find this method to be cheaper than it was to use twine or images, which with me were never a sure remedy.

CARE OF MILK VESSELS.

In an article in the *Ohio Farmer*, written by a cheese factory man, we find the following suggestions on washing cans, which are equally applicable to pans and other dishes in which milk is kept:—

When a can is to be washed, do not put hot water in it at first, but put in water not above milk warm which will readily dissolve the milk if any is dried on to the tin, and it works off very easily; while if hot water is applied at first, it has a tendency to cook the milk on the tin, in which condition water will not very readily dissolve it, but warm milk will. It is therefore very important to give strict heed to this matter, and see that the milk is thoroughly removed by washing before any boiling hot water is applied. Care must be taken to remove every vestige of the milk about the seams of the cans and covers, as here is where the trouble always begins. My attention is always directed to the seams first, if I suspect a can is not properly cleansed, especially the seams in the cover. The little tube in the center of the cover, is also a place to be especially looked after in cleaning the can.

Very many people who consider themselves, and are considered by others patterns of neatness, fail to keep their milk cans perfectly cleansed; many times no doubt through ignorance of how to do it, and many times from a lack of appreciation of the extreme *neatness* of that scrupulous care necessary to keep everything used about milk *immaculately* clean.

TO KEEP FOWLS HEALTHY.

The way I keep my fowls in health, I clean out the house once a week; put wood ashes under the roosts; have iron basins for them to drink from; whitewash inside of hen house with *hot* lime; put a little kerosene oil on the roosts once a month. The main food is oats, and cake of scraps to pick on. I never feed but once a day—at noon, or when I shut then up at four or five P. M. When they run out then give them all they will eat. In my experience, there is no way to get diseased fowls easier than to keep them stuffed; it makes them lazy, and they won't work as much as they ought to, to keep in a healthy condition.

I never had any gapes in chickens. When any fowl begins to droop, I give three large pills of common hard, yellow soap; 'tis the best thing to cleanse a fowl I know of. I follow it for three days, give them nothing to eat and plenty of pure water to drink. In desperate cases, give a half teaspoonful of tincture of lobelia. It will seldom, if ever, fail of curing. It is a very cleansing and powerful medicine for fowls.—*H. C. Wheeler, Foxboro, Mass., in Rural New Yorker.*

Premium for Corn.—John D. Lyman, Farmington, N. H., offers the following premiums on corn grown in that State the present year. For the best 100 ears of eight-rowed corn, $35; for the second best 100 ears of eight-rowed corn, $15; for the best 100 ears of more than eight-rowed corn, $35; for the second best 100 ears of more than eight-rowed corn, $15. The corn must be well traced, and so secured by cords as not to break, and to be forwarded free of expense, so as to reach the subscriber at Smyth's Hall, in Manchester, by noon of the last Tuesday of December next, at which time and place the premiums will be awarded. Size, beauty and quality, both of ears and grains, are among the things to be considered in awarding the premiums. Each 100 ears must be grown upon one farm, and none of it selected from plots of less than one acre. The four premium traces are to belong to subscriber, and all others to their owners. Method of cultivation to be furnished in writing.

Piscataqua, N. H., Agricultural Society.—The following officers were recently elected:—James H. Butler, President; C. H. Hayes, Secretary; F. W. Miller, C. B. Mason, Benning Morrill, Trustees.

HAY CROP IN NEW ENGLAND.

VERY near at hand is the season when the farmer must attend to the securing of this important crop. The questions as to *when* this shall be done—that is, at what particular period in the growth of the grass,—and in *what manner* shall it be done, if properly decided and practiced upon, will greatly enhance the value of the crop beyond what it would be if the grass is cut and cured under some of the modes too often practiced.

The amount of hay made in New England this summer will probably amount to *five millions of tons*, and its cash value will undoubtedly be something more than *fifty millions of dollars*.

This value may be very essentially decreased by the methods adopted in cutting and curing the grass. The almost universal practice for many years past has been to cut the grass early in the morning, before the dew was off —if cut with a hand scythe—and sometimes it is cut in that condition with the mowing machine. The grass was then spread, turned at noon, exposed to the sun all day, and just at night put into cocks. In many cases the grass was not put into cocks, but merely thrown into windrows,

On the morning of the second day, as soon as the dew was off, the hay was spread out again, turned once or twice during the day, and at about three or four o'clock in the afternoon, it was taken in. In some cases the hay was cocked a second time, and again opened and had a *third* days' sunning!

The inquiries of every farmer ought to be—What effect has this process upon the grass? Is my labor upon it, merely to dry it so that it can be preserved for winter use, or is there some other object to be gained at the same time?

We have often given our own opinions on this matter, and have stated that they were founded, not upon mere "hearsay," but upon reading, observation and a careful experience in cutting and curing the grass, and in feeding it to domestic stock.

Let us see now what *others* say about it. A writer in an old number of the *Ohio Farmer* gives the following excellent advice on the

Philosophy of Curing Hay.

"Don't dry your hay too much. Hay may be dried till it is as worthless as straw. As a good coffee-maker would say, 'Don't burn your coffee, but brown it;' so we say, don't dry your hay, but cure it. Our good old mothers, who relied upon herb tea instead of 'potecary medicine,' gathered their herbs while in blossom and cured them in the shade. This is the philosophy of making good hay. Cut in the blossom, and cure in the shade. The sugar of the plant when it is in bloom is in the stalk, ready to form the seeds. If the plant is cut eailer, the sugar is not there; if later, the sugar has become converted to woody matter.

Hay should be well wilted in the sun, but cured in the cock. Better to be a little too green than too dry. If, on putting it into the barn, there is danger of 'heating in the mow,' put on some salt. Cattle will like it none the less.

Heat, light, and dry winds, will soon take the starch and sugar, which constitute the goodness of hay, out of it; and the addition of showers render it almost worthless. Grass cured with the least exposure to the drying winds and searching sunshine, is more nutritious than if longer exposed, however good the weather may be. If over cured, it contains more woody fibre and less nutritive matter.

The true art of hay-making, then, consists in cutting the grass when the sugar and starch are most fully developed, and before they are converted into seed and woody fibre; and curing it to the point when it will answer to put into the barn without heating, and no more."

A writer in the *Maine Farmer*, says "hay should always be cut with all its juices intact and before its seed is ripe. To do this effectually, sweating in cock is better than too much exposure to the hot sun; and if the weather is showery, cloth caps for the cocks will sometimes pay for themselves the first season, in the quality of the hay alone."

The above statements are true in every particular. They have been verified in numerous instances. Fifteen years ago, we purchased fifty caps at a cost of forty cents each. They protected a crop of grain the first year, during a seven days' storm, and fully saved their cost in that single instance.

The following is from the *Valley Farmer*, good authority:—

"The whole science of hay-making consists in three things: First, cut the grass when in blossom; second, dry it not much; third, let it go through a sweating process before it goes into the barn. On these three things depend the quality of hay. Hay should be grass preserved. The nearer to the fresh, tender, succulent grass you get it, the better. Could we have grass growing in winter, how much better than hay. Well, hay is an attempt to do this as near as we can. We dry apples and berries so that we may have them in winter. . . . But we can't have them absolutely fresh, so with grass; we preserve it, and hay is the result. . . Grass, when in blossom, has its full growth, excepting the seed. It is yet tender in a measure, and it has one advantage which no other stage of the grass possesses—it develops its sugar then. Especially is this the case with clover, whose head, when in blossom, is a globe of sweetness. . . .

> The best farmers have decided that the blossoming time is the best time to cut the grasses, especially the clover. When grass is ripe, what is it good for? Certainly not for pasture; and will it be better when it is still farther dried and made hard?"

The object should be to save the grass as nearly as possible in this condition. Expose it to the sun and air until it is thoroughly wilted. By that time most of the moisture, which is mere water, has escaped, and the juices, holding in solution the nutritive properties, are retained, and in themselves not spoiling, but keeping the hay soft and pliant. Continued heat will evaporate these, and rains and dews will soon remove them and leave a dry, almost worthless stalk. The sun is injurious. It bleaches and evaporates too strongly. The best way is to cure in the shade as much as possible, and that is best done in the cock. Cured in this way, it is fragrant, nutritious, and the greenest of greens.

At a discussion at the New York State Fair in September, 1865, the general subject was, "Grass—Kinds, Quality, Proper time for Cutting, and best method of Curing for Hay." During this discussion, some of the best farmers in the country gave their opinions, and we believe they all agreed on these two points, viz: that early cut grass makes the best hay, and that it is better dried mainly in the shade. Among the speakers was Mr. J. **Stanton Gould**, a skilful botanist and an eminently practical person, who said:—

> "Prof. Way, a distinguished chemist, found that grass mowed just in the flower was the most nutritious. When grass is allowed to ripen its seed, the straw is converted into woody fibre, is indigestible, and its nutritious value very much lessened. Animals fed upon hay of grass cut in flower are more thrifty and hearty, and show a sleeker coat than when fed upon hay made from grass matured before being cut. When timothy is allowed to mature its seed, its stems are mere dry straw, the sugar and gum which they contained having turned into woody fibre. The seeds do not open in the animal, but are passed off. The best way to make hay is to cut grass when the dew is off, and allow it to wilt, which, in a hot sun, requires four hours; then, towards evening, rake and cock, and next day, if the weather is fine, open, dry, and haul into the barn."

Mr. **Van Alstyne** said he cut 100 to 125 acres annually.

> "I commence mowing in the morning, after the dew is off; start the rake after dinner, and get all in cock before 5 o'clock. Get it in the next day, if the weather is favorable. Ripe timothy is no better than barley straw. I make it a rule to cut my grass as early as possible, most of it the first week in July."

Col. **Brewer** said he had followed cutting grass green since 1822. Cut clover from the 18th to the 24th of June. Believes the sugar saved by cutting just in the blow is of more nutritive value than *four* times what it would be if left to mature the seed.

Mr. **Dederick** preferred to cut early, and if all the crop could not be cut at the right time, thinks it better to cut when a little too green than when too ripe. When grass is cut early "it is better for the fields."

Similar opinions were expressed by all who took part in the discussion, except by some who preferred riper hay for horses.

In curing hay, it is very important that it should not be wet by showers, nor exposed to dews, while in the process of curing. They dissolve and wash out the soluble constituents of the grass. The sugar and the soluble salts are removed in this way, and the hay is thus made to approximate to the insipid and innutritious condition of woody fibre. It has been rendered less palatable and less digestible. Beasts will not, therefore, eat it with the same avidity as if it had been properly saved; and even if they did, it could not afford the same nourishment. A little care in this matter, during the hay harvest, will fill the barns with sweet and nutritious hay.

HOEING AND HAYING.

Conditions of soil and weather that are favorable to the growth of crops, are also favorable to the growth of weeds, and unless special and constant pains are taken to eradicate the weeds, they will overtop and choke the crop. Such seems to be the order of Providence. The virtues and vices spring up and grow together, and unless special culture is directed to the suppression of the latter, the former will yield but little if any fruit.

As in moral so in physical culture, a large portion of the time and strength of the cultivator must be employed in removing that which would injure the growth of the valuable or ornamental products which he is striving to develop. The very culture which will give strength and vigor to the plant, will give vigor and strength to the weeds, if suffered to stand by its side.

In the early part of the season, while the plants are small, and before other work becomes urgent, we generally keep our grounds clean, and we seem to suppose that the weeds are effectually subdued. But as children, however tenderly cared for in early life, if exposed to evil influences and evil examples, without restraint, will develop bad habits and dispositions, so without constant attention during that portion of the year in which the temperature and moisture cause the seeds to germinate, the weeds will grow.

Most farmers intend to get the hoeing done before commencing the haying. This was the rule among our fathers, who did not generally commence their haying as early as good farmers do now-a-days. When our hay consisted mostly of redtop and natural grasses, it might be allowed to stand longer without injury, than the clover and herdsgrass, on which we now so generally depend, and which experience teaches us must be cut while it retains as much as possible the property of grass. This renders it necessary to begin haying some ten to fourteen days earlier than formerly, and the cultivator and hoe cease to work among the corn and potatoes so much earlier.

If a portion of the farm is devoted to market gardening or early fruits, these must be attended to in their season or they will be lost. We know a man who had a field of early potatoes, which made a fine show in June, and promised a large crop, but the dry weather of the heated term choked the growth of the tubers, and at the same time ripened up his strawberries so rapidly that they required all the force he could raise. By the time the strawberries were picked the weeds fairly overtopped the potatoes, and now what should be done? If he undertook to "gather up the tares he would gather up the wheat with them." If he "let them both grow together till the harvest," he would have a small crop of potatoes and a large crop of weed seeds for next year. So he just put in the plough and turned under both weeds and potatoes, and sowed turnips. Perhaps it was rather an expensive green crop with which to enrich his soil; but almost anything is better than a crop of weeds.

During the latter part of July and August, the moist, sultry weather which we usually have, greatly favors the growth of weeds, and the corn and potatoes are then so large that we cannot work among them without injuring the plants. Our method of planting is predicated on the idea that the ground is free from weeds, and that the plants should be placed as near as they will grow without interfering with each other. But in rich land and in old land the weeds are sure to come in a moist season. Now would it not be better on such soil to plant the rows at least one foot wider apart than we usually do? This would enable us to work among them two weeks longer, and without injuring the plants; and should we not be less reluctant to give our fields the benefit of another cultivation than we now are? and should we not generally on rich, weedy land, get quite as much to the acre as we do now? With the improved machinery we now have, we may get our hay in half the time it formerly took us; and this, with commencing earlier, will give us opportunity to put in the plough and hoe again after haying, and leave our fields clean at harvest time. We must give up the old maxims and practice which have been handed down as an heir loom, and adapt our methods to the circumstances in which we live.

Those who cut their hay early last season, had as fine weather as they could desire, and observation will show that we generally have fine weather from about the twentieth of June to the middle of July,—the very time to cut our cultivated grasses. After that, the weather grows "catchy" and much hay is hurt in the making. Let us learn wisdom by experience, and adopt such methods and so plan our work that everything shall be done at the proper time and to the best advantage.

Bugs in Peas.—Dr. I. P. Trimble, of Newark, N. J., says this bug or weevil in the pea is well nigh universal, at least over wide sections of the country. In the northern part of New York and New England, he does not usually affect the peas so seriously. Hence seed peas ought to be raised north of Albany and Boston. A very small egg, that soon becomes a minute worm is laid on the back of the pea pod. The little animal eats his way into the middle of the pea, and slowly matures into the weevil that we find in these peas. When the pea is green, he is so small as to be below notice. But when the ripe pea is brought to market, the size of the worm, and afterwards of the bug, is such as to make most dried peas unfit for the table. Fowls prefer them, and they will generally do as well for seed as sound peas. They do not affect the earliest of our peas, nor the very late varieties; but the Marrowfats and English Mammoth are always infested with them. As nineteen-twentieths of our pea crop is eaten green, the difficulty is one of little practical importance.

CULTURE OF CARROTS FOR STOCK.

THERE is much difference of opinion with regard to the economy of raising carrots for feeding to our stock. The economy of the matter we think will depend upon two things: first, the kind of land used, and secondly, the kind and amount of manure employed and the manner of cultivation.

If the land is heavy and weeds allowed to grow and shed their seeds upon it, it will cost more to protect the young carrot plants from the weeds, so that they will have some chance of growing, than it would to cultivate the crop through the entire growing season, if the soil were free from weeds.

Again, if manure is used that contains a variety of the seeds of weeds, some starting early in the season and others at a later period, it will cost twice as much to cultivate the crop of carrots as it would upon a soil that is suitable, and by the use of manure that contains no seeds of weeds.

Two other things are then necessary in order to cultivate the carrot economically. First the use of land that is clean in itself, and then the application of some fertilizer that is free from all seeds which are not wanted.

The soil should be ploughed deep and made fine. The rows of plants placed twenty to twenty-four inches apart and the plants in the rows four to six inches apart.

It is the practice of many persons not to sow the carrot until about the first of June. The reason assigned is, that by waiting until the soil is thoroughly warmed, the weeds will start up in great numbers—if their seeds are in the soil—and by working the soil at that time they will be destroyed. Then put the carrot seed in and they will come quick and get out of the way of the later weeds which may appear. This plan does not usually operate well. It is better to sow carrots as early in May as the soil can be made suitably fine. If the first week in May, so much the better.

The rows should be perfectly straight, and the crop cultivated, mainly, by horse power. The thinning of the plants in the row may be done with a hoe of proper width, leaving only the standing bunches; if there are too many plants together they must be thinned by the fingers.

In selecting land for this crop, some persons select an old sward, manure it heavily on the surface and turn it over late in the fall; pulverize well in the spring, apply guano, superphosphate, or some fertilizer that has no seeds of weeds, and put in the crop early in May. If the sod so turned over is a thick one and well cracked into pieces in ploughing, this plan is the best that can be adopted.

About two pounds of seed are required for an acre. It is cheaper to sow liberally than to leave vacancies, or be perplexed in mixing in some other crop. There are excellent machines to sow with now, which do the work quickly and well.

Judging from actual experience in feeding carrots to stock, we are inclined to believe their value is generally underrated. The analysis of chemists, also, give them more value than is usually accorded to them. Einhoff, a German chemist, states that 200 lbs. of potatoes, 460 lbs. of beet root, 350 lbs. of ruta baga, and 266 lbs. of carrots, are each equal to 100 lbs of good hay. He says that carrots *have a highly beneficial effect upon milk*, and adds, "It has long been known in our country that carrots are eagerly eaten by horses, and are very wholesome for them; in consequence of which they have been adopted as a remedy for horses that are overheated. The English, and particularly the Suffolk cultivators were the first to show that horses may be kept in full vigor, although they are employed upon the most laborious occupation, upon seventy or eighty pounds of carrots per day, and *eight* pounds of hay.

It is sometimes said that the carrot cannot be a nutritious food because so large a proportion of it is water. The same may be said of the potato, although we presume a person might live well upon it for months together. It is not altogether what we call the nutritive properties of a plant that gives it all its value. When analyzed, the carrot gives but little more solid matter than any other root, eighty-five per cent. being water, but its influence in the stomach upon other articles of food is most favorable, conducing to the most perfect digestion and assimilation. This result, long known to practical men, is explained by chemists as resulting from a substance called *pectine*, which operates to coagulate or gelatinate vegetable solutions, and thus favors digestion in all cattle. The juices of fruits contain a gelatinous substance termed pectine, which forms the basis of the various jellies. Horses are especially benefited by the use of carrots.

Mr. T. H. Leverett of Keene, N. H., in an article in the Report of the Agricultural Department for 1863, says:—"My experience in feeding carrots to cattle is, that when fed a peck each day they never eat any less hay for it; their appetites are sharper, more regular, and the cattle look and feel a great deal better; their hair is more glossy and sleek. My horses are doing better this winter, as I am feeding them with less grain than ever before, and give them a pint of meal morning and night with dry hay, half a peck of carrots at noon and a little hay."

NEW PUBLICATIONS.

The Horse in the Stable and the Field: His Management in Health and Disease. By J. H. Walsh, F.R.C.S., ("Stonehenge;")' author of "British Rural Sports," &c., &c. From the last London Edition. With Copious Notes and Additions, by Robert McClure, M. D., V. S.; author of "Diseases in the American Stable, Field and Farmyard," and an Essay on the American Trotting Horse, and Suggestions on the Breeding and Training of Trotters. By Elwood Harvey, M. D. Illustrated with over Eighty Engravings. Philadelphia: Porter & Coates; Boston: A. Williams & Co. 540 pages.

The climate, soil, vegetation and stock diseases of Great Britain are so different in many respects from those of the United States that English agricultural and veterinary books need careful revising to be safe guides for practice here, however popular they may be at home. Yet many of our American reprints of English works of this kind have been very inefficiently edited, often perhaps from motives of economy on the part of publishers. This volume, however, bears marks of careful revision. A history of the horse, and of different breeds, remarks upon his action, on the principles of breeding, stable management, anatomy, physiology, &c., occupy the first 300 pages, and some 150 pages are devoted to diseases and their treatment, with a chapter on shoeing. In a notice of this part of "Stonehenge" on the Horse, Dr. Paaren, veterinary editor of the *Prairie Farmer*, says "the treatment recommended by him is sound, scientific, and we believe successful, being written by a practical man, and not copied from other books." The essay on the American Trotting Horse contains information that will be interesting even to those who object to the "agricultural horse trot." A list of imported horses, is also given. The paper, print, cuts, index, &c., are workmanlike, and altogether we regard it as a most valuable work.

Transactions of the Wisconsin State Agricultural Society with Reports of the State Horticultural Society, and condensed Reports on the International Exhibitions of 1862 and 1867. Vol. VII. 1861 to 1868. Prepared by J. W. Hoyt, Secretary.

This volume covers a period of eight years in the history of the Wisconsin State Agricultural Society, and serves to connect the six preceding volumes with those which are to follow. The Society held no exhibitions during the years 1861, 1862 and 1863. A list of premiums awarded at the several fairs of the other five years is given, with some of the addresses delivered on those occasions, but very little from the farmers themselves of Wisconsin. Of necessity this volume is devoted more largely to the dry facts of the history of the Society than is usual in an annual volume. Still we think the space devoted to the details of two European tours, and to the lengthy addresses of gentlemen from other States, might have been more appropriately occupied by the "transactions" of the members of the Agricultural Society of Wisconsin, both in their associate and individual capacities. We look to the reports of the different State Societies for information on the agriculture and condition of the people of those States, and not of Europe. The success of a Secretary or of a presiding officer of a farmers' association depends on his skill in drawing out the members, setting them to work, getting them to write or speak, and reporting their doings, rather than on their skill in talking and writing themselves. To this criticism, which we hope friend Hoyt will take in as kind a spirit as it is given, the reports of much older societies are as obnoxious as the one before us. Even the "Transactions" of the great agricultural society of the great State of New York have been interlarded with European essays. A local report or a local newspaper is valuable less for its size than for the amount of local intelligence it contains.

The report of the State Horticultural Society, which forms a part of this volume, is capital. It furnishes just that information which the horticulturist interested in Wisconsin desires in relation to the fruits adapted to its climate and soil, and the modes of cultivation most successful there.

—S. N. Watson gives the following, in the *Maine Farmer*, as his method of preventing smut in wheat: make a strong pickle of salt and water in a tub; put in half a bushel of wheat and stir smartly, when about all foul stuff will rise to the top. Skim this off, and place a basket over another tub, and dip out the wheat to drain. Then put into a box and turn in dry ashes; stir so that the ashes shall touch every kernel; then put in plaster to make it sufficiently dry to sow. The same pickle will do for the whole lot.

For the New England Farmer.

REPLY TO QUESTIONS ABOUT CRANBERRIES.

The communication on "The Cultivation of Cranberries," which was published under my name in the FARMER a few months since, has flooded me with letters of inquiry from nearly every section of the country. When I penned the article I was not aware that the circulation of the FARMER extended over so wide a field, nor did I suppose that the interest in the cultivation of cranberries was so deep and wide spread, as the large package of letters before me convinces me it is.

I have no doubt that some of these correspondents are disappointed in not receiving immediate answers to the numerous questions which they have asked; all of them, I presume, supposing theirs to be the only letter of inquiry sent to me, and that it would be no great task to answer it. Finding it would interrupt my private business too much to write answers to each letter, I laid them aside, thinking when they were all in I would answer them in one communication through the columns of the FARMER, but they still continue to come; in fact, there seems to be no end to them; for before those from new correspondents are all in, the men who wrote first are now sending their second letters, having good reason to suppose that their first did not reach me.

The season for transplanting being at hand, and believing that I have many more questions in the letters already received than I can answer in one communication, I improve a few moments to dispose of them. Nearly every correspondent describes to me a piece of land which he owns, and desires to know if I think it suitable for producing good crops of cranberries. In reply to this question I would say to correspondents of Minnesota, and other Western States, that I know practically nothing of your soil or climate, and I may say the same to the correspondent of North Carolina and those of other Southern States. To those of Maine, Vermont, New Hampshire, Connecticut, and of this State, it is useless for me to advise you what business it is best for you to engage in, without knowing anything of the circumstances which surround you.

I think, however, I may venture to advise you all, who have a piece of land such as I described in my former communication, to try a few rods of it with cranberries, and then you will know by practical experience whether it is best to enter largely into the business or not. This knowledge would be worth to you more than all the communications which I could write during the time you were making the practical test.

Nearly every correspondent desires to know where he can get good vines and at what price. I very much regret that I am unable to answer this question. I have two varieties one of medium size, high color, keeps until August, but rarely produces more than two bushels to the rod; the other is very large, colors late in the autumn after harvesting, keeps well and sometimes produces from three to four bushels to the rod. I have none which I wish to dispose of, or perhaps I might more truthfully say I could not attend to the packing of the vines for transportation, without drawing my attention away from a business which at present requires all my time as well as attention. Those who have cranberries in their vicinity had better examine them and select those which are known to be productive.

The vines in good locations will produce a fair crop the third year after transplanting, if the land is not too rich, and is covered with six inches or more of sand. They will continue to produce fair crops ten or twelve years. It is then usually necessary to reset the vines. Such plantations as have come under my observation have ceased to produce large crops where the vines cover the ground so thick that the new horizontal runners are so far from the soil as to prevent them from sending out roots which seem to be necessary to support the short perpendicular shoots on which the fruit is produced.

My knowledge in this business is derived from a variety of experiments tried on a small scale, a large part of which were conducted by my father. I have seen him grow cranberries of excellent quality on hills composed of sandy loam, but not profitably, nor did he find it profitable to cultivate them on springy land with clay bottom. It is only on such land as I described in my former article that we have found it profitable. In conclusion I would say to every one who has land which he thinks is adapted to the growth of this excellent fruit, try a few rods, and if successful enlarge each year until your land is covered.

E. HERSEY.

Hingham, Mass., April 24, 1869.

For the New England Farmer.

MOTHS.

Can you or any of your readers tell how to destroy moths, if you can you will oblige a constant reader.

B. F.

Jacksonville, Vt., 1869.

Will you give us the habits of the moth, and the time when we should protect our furs and woolen goods from their depredations? MRS. D. A. S.

Schoolcraft, Michigan, 1869.

REMARKS.—In reply to the above we copy the following from Prof. Harris' *Treatise on Insects:—*

The various kinds of destructive moths found in houses, stores, barns, granaries, and mills, says Mr. Harris, are mostly very small insects; the largest of them, when arrived at maturity, expanding their wings only about eight-tenths of an inch. The ravages of some of these little creatures are too well known to need a particular description. Among them may be mentioned the clothes-moth (*Tinea vestianella*), the tapestry or carpet-moth (*T. tapetzella*), the fur-moth (*T. pellionella*), the hair-moth (*T. Crinella*), and the grain-moth (*T. granella*), with some others belonging to a group, which may be called Tineans (TINEADÆ).

The Tineans, in the winged state, have four short and slender feelers, a thick tuft on the forehead, and very narrow wings, which are deeply fringed. They lay their eggs mostly in the spring, in May and June, and die immediately afterwards. The eggs are hatched in fifteen days, and the little whitish caterpillars or moth-worms proceeding therefrom immediately begin to gnaw the substances within their reach, and cover themselves with the fragments, shaping them into little hollow rolls and lining them with silk. They pass the summer within these rolls, some carrying them about on their backs as they move along, and others fastening them to the substance they are eating; and they enlarge them from time to time by adding portions to the two open extremities, and by gores set into the sides, which they slit open for this purpose. Concealed within their movable cases, or in their lint-covered burrows, they carry on the work of destruction through the summer; but in the autumn they leave off eating, make fast their habitations, and remain at rest and seemingly torpid through the winter. Early in the spring they change to chrysalids within their cases, and in about twenty days afterwards are transformed to winged moths, and come forth, and fly about in the evening, till they have paired and are ready to lay their eggs. They then contrive to slip through cracks into dark closets, chests and drawers, under the edges of carpets, in the folds of curtains and of garments hanging up, and into various other places, where they immediately lay the foundation for a new colony of destructive moth-worms.

Early in June the prudent housekeeper will take care to beat up their quarters and put them to flight, or to disturb them so as to defeat their designs and destroy their eggs and young. With this view wardrobes, closets, drawers, and chests will be laid open, and emptied of their contents, and all woolen garments, and bedding, furs, feathers, carpets, curtains, and the like, will be removed and exposed to the air, and to the heat of the sun, for several hours together, and will not be put back in their places without a thorough brushing, beating, or shaking. By these means, the moths and their eggs will be dislodged and destroyed. In old houses that are much infested by moths, the cracks in the floors, in the wainscot, around the walls and shelves of closets, and even in the furniture used for holding clothes, should be brushed over with spirits of turpentine. Powdered black pepper, strewed under the edges of carpets, is said to repel moths. Sheets of paper, sprinkled with spirits of turpentine, camphor in coarse powder, leaves of tobacco, or shavings of Russia leather, should be placed among the clothes, when they are laid aside for the summer. Furs, plumes, and other small articles, not in constant use, are best preserved by being put, with a few tobacco leaves, or bits of camphor, into bags made of thick brown paper, and closely sewed or pasted up at the end. Chests of camphor-wood, red cedar, or of Spanish cedar, are found to be the best for keeping all articles from moths and other vermin. The cloth linings of carriages can be secured for ever from the attacks of moths by being washed or sponged on both sides with a solution of the corrosive sublimate of mercury in alcohol, made just strong enough not to leave a white stain on a black feather. Moths can be killed by fumigating the article containing them with tobacco smoke or with sulphur, or by shutting it in a tight vessel and then plunging the latter into boiling water, or exposing it to steam, for the space of fifteen minutes, or by putting it into an oven heated to about one hundred and fifty degrees of Fahrenheit's thermometer.

For the New England Farmer.

"STERILITY IS LAID."

MR. EDITOR:—Since the appearance of the very encouraging pamphlet making proclamation as above, I have intended to write to you upon the subject.

I read and examined the pamphlet with deep and pleasant interest. It called up to memory various experiments made and conclusions arrived at, nearly or quite twenty years ago.

I was an attentive and close reader of the early volumes of Professor Mapes' "Working Farmer," in which appeared very nearly the same theory. The Professor's preparation of superphosphate of lime was said to contain all the elements necessary to make any poor land productive, if the physical condition of the soil only received proper care.

It appeared to me, without claiming high attainments in the knowledge of chemistry, &c., that the theory put forth could not be trusted to the extent of what it seemed to promise, aside from other agencies and powers. Altitude of a piece of land, its inclination towards or from the sun, its contiguity to natural electrical currents, its exposure to atmospheric currents and all similar influences and peculiarities have each a power upon it as a productive agent, as also the physical condition of the soil has; but still another item is indispensable in the account, in known cases. Our cereal annuals, without a supply of decomposed carbon in the soil for food, will fail to mature grain.

I had taken a hint from the "Genesis" of

Scriptures, where the plant without seed is represented as preceding the seed-bearing plant. I tried various experiments, all of which proved that only the stalks and foliage of plants can be produced by such compounds as were recommended, impliedly at least, for a complete production. In one case I selected a very light soil, unquestionably free from injurious acids, of good inclination and of favorable altitude, but containing so little carbonaceous matter as to be just suited for my experiment. I ploughed it well, and dressed bountifully of the compound, which it was said would do the needful to secure a crop anywhere, and planted with Indian corn. It came up quickly, looked beautifully, and fifty days from planting gave promise most cheering. The season was favorable, but an eighth of an acre yielded not more than one peck of corn, at harvest time. The reason existed in the nature of the case. Nature, with all her ample powers, cannot create.

Another experiment with the same compound, for the purpose of producing fodder without grain, was in the highest degree successful. On a cold soil, where the production of fodder only was intended, a dressing of green manure was first applied, and then on one part the same special compound before referred to was added. The difference in favor of the special addition was as thirteen and a half to one.

A safe motto ever is, "Prove all things, and hold fast that which is good."

Lee, N. H., 1869. A. G. COMINGS.

For the New England Farmer.

CEMENTING BARN CELLARS.

Mr. D. L. Tolman asks for definite information on the subject of manure vats. As I have cemented two barn cellars to hold manure, with what I consider complete success, I will endeavor to reply.

First, I used the common Hydraulic Cement in both cases. In the first instance, I employed a mason to superintend the work, and followed his directions to the letter, which were, first, to level off the bottom of the cellar and then make it very hard by pounding it with a ram, such as is used by pavers; then to put down three inches in thickness of a plaster composed of one part cement and three parts gravel, and water sufficient to make it as thick as mortar for plastering. Mix in small quantities, and use it quick.

The second one I did myself in my own way. This cellar bottom was the loosest of fine sand, which it would do no good to pound. So I just raked it off level and applied the plaster upon that soft surface, mixed as follows: I procured two or three cart loads of gravel stones, all the dirt removed by screening, ranging in size from as large as my fist down to the size of a filbert. Then I took one bucket of cement and two of good sharp sand or gravel, with no loam in it, and eight buckets of the stones and applied as before, three inches thick, smoothing off the surface with a little mixed up without the stones, so as to make good shovelling. I protected the edge where I drove in and out with the cart by laying down a row of granite stone across the whole front of the cellar to keep the edge of the cement from crumbling.

This last, as you see, is much cheaper; but either one is so hard that you can drive a forty-bushel cart piled full of manure across it and make no more mark than on a solid rock.

In cementing a place twenty by thirty feet, I used but thirteen and one-half casks of cement, and did the work in two days with a cheap day laborer to assist me.

If the common cement is properly mixed, I think Mr. Tolman will not lose much manure by its percolating through the cellar floor.

J. G. HUBBARD.

Derry, N. H., May 3, 1869.

PROF. VILLE'S COMPLETE MANURE.

A few years ago farmers were led to expect that they should be able to learn just what material or substance they should apply to their run-down fields to make them produce good crops, by having a specimen of their soils analyzed by the chemists. These expectations have not been fully realized.

A few years since, M. George Ville, a professor in a Paris institution of learning, undertook to analyze soils by the growth of the plant itself, instead of the chemist's crucible. Beginning with pure burnt sand, instead of soil, placed in china pots, he planted in each a few kernels of wheat. All were kept moist with distilled water. To one of these pots he added one kind of pure chemical substances, to another, another kind, and so on, to ascertain which substance or substances made the plant grow best. After experimenting in pots and fields some fifteen years he came to the conclusion that a "Complete Manure" might be made of four ingredients, viz:—

1. Nitrogen, in the state of nitrate of soda, or sal ammonia;
2. Phosphoric acid, in the state of phosphate of lime;
3. Potassa, in the state of carbonate of potassa; and
4. Lime, in the state of caustic lime.

A little pamphlet written by John A. Riddle, Esq., of Manchester, N. H., embracing the principal conclusions of Prof. Ville, has been extensively circulated in New England, and we have been looking for the results of experiments with the complete manure by Yankee farmers, which should determine its practical value on our soils.

The following experiment with this fertilizer on potatoes has been reported by a correspondent of the *Mirror and Farmer*, "D. G." of Hollis, N. H.

Last spring I measured off a strip of land containing seven square rods, and divided it so as to have one rod in each plat, and planted them as follows, with the same number of pounds of potatoes to each plat for seed:—

No. 1. Without any fertilizer.

No. 2. Was a compound of my own getting up, which I describe hereafter.

No 3. Prof. Ville's "Complete Manure," as follows: nitrate of soda, 3 lbs.; carbonate of potash, 2 lbs. 2 oz.; superphosphate of lime, 2 lbs. 2 oz.; quicklime, 9 oz.

No. 4. Same as No. 3, with the nitrate of soda left out.

No 5. Same as No. 3, except the carbonate of potash (pearlash.)

No. 6. Without superphosphate of lime.

No. 7. Without quicklime.

The yield of the several plats was as follows:—

No 1	produced	21½	pounds,	or	57⅓	bushels	per	acre.
" 2	"	37½	"	"	100	"	"	"
" 3	"	58½	"	"	156	"	"	"
" 4	"	21½	"	"	57⅓	"	"	"
" 5	"	34½	"	"	92	"	"	"
" 6	"	34½	"	"	92	"	"	"
" 7	"	31½	"	"	57⅓	"	"	"

The first question will doubtless be, "Did it pay?" Not by a long chalk, if you count the cost of the *doctor stuff*, in proportion to the yield,—but it did in this way: I found out just what that field wants to grow a crop of potatoes. In other words, the experiment gave an analysis of the soil, much cheaper than the chemist would have done it, and much more to my advantage.

Compound No. 2 was made as follows; 1 cask of lime, slacked with 8 pails of water, in which a bushel of salt had been dissolved. This was spread on the floor, and 1 bushel of salt, about 3 bushels of plaster, 4 of ashes, ½ peck of copperas, and about 5 or 6 bushels of hen manure mixed together; the plaster and hen manure should be thoroughly mixed before putting it with the other ingredients. This will make a very strong compound and a good one for potatoes, but should be spread considerably if put in the hill. It should be kept in barrels, tightly covered up until used, as it is very strong in ammonia. I think potatoes less liable to rot when planted with this mixture than with manure, and of better quality.

We think that several of the ingredients of Compound No. 2, are what chemists call incompatible, and should not be mixed together. In an article published last week from the *Boston Journal of Chemistry*, Dr. Nichols gives some of the reasons for this opinion.

—The first class that graduated at the New Jersey Agricultural College consisted of seven young men, of whom one is a farmer, one a railroad engineer, one a mechanical engineer, one a geologist, one a mineralogist, and two are teachers.

AGRICULTURAL ITEMS.

—John Johnson, the father of upland tile draining in this country, lives to see within the State of New York fifty-two factories of tile drains.

—The *Prairie Farmer* says a Kentucky woman feels more pride in having the first green peas than the first spring bonnet.

—A very full stomach in a horse always crowds his lungs so that he cannot go fast, or work hard, without danger. Let this be always kept in mind.

—Gas tar mingled with the white wash applied to the interior of a hen house, at the rate of one gill to a pailful, it is said will disperse the lice.

—The *Utica Herald* says, if the statements of aggrieved farmers are to be believed, in no State is swindling in commercial fertilizers carried on to so great an extent as in New York.

—F. C. Warren, of Reading, Vt., recently lost a valuable cow from feeding her with hay in which was mixed the dried stalk and leaves of the common meadow poke plant.

—A correspondent of the *Prairie Farmer* says fence posts covered with boiled oil thickened with pulverized charcoal will make them last longer than iron.

—New milk applied to the eye-ball of cattle with chaff in their eyes, it is said by a correspondent of the *Rural New Yorker*, will remove the chaff and cure the eye.

—Would you force garden plants and have the earliest green peas? Sprinkle every forty-eight hours with liquid manure made by leaching yard manure, ashes, guano and bone dust. If the stuff is strong, dilute largely.

—A wealthy gentleman in New York died of the glanders, lately. He caught the disease from a favorite horse. This is the fourth death of a human being from glanders, since the organization of the New York Board of Health.

—A correspondent of the Utica *Herald* finds nothing equal, as a destroyer of lice on cattle, to a strong suds of soft soap and rain water, to which is added common salt. This is applied by rubbing thoroughly over the animal.

—A correspondent of the *Rural New Yorker* says he has a young horse that for two winters was fed upon nothing but barley straw, and that, too, with chaff in. He considers barly straw, if bright and well taken care of, as good or better than poor hay for any animal.

—The editor of the *Gardener's Monthly* says: "There is nothing that will make as good a border as Box, or some of the dwarf Arborvitæs. Of flowering plants, the best is the Perennial Candytuft. This will flower in April. The mountain or Moss Pink—*Phlox subulata*—is a pretty edging.

—Careful observation of the habits of the robin by an ornithologist in Massachusetts has proved that he is beneficial one hundred and forty-two days, injurious sixty days, and harmless one hundred and sixty-three days. If there is one reason for killing him, there are three for sparing him.

—Market gardeners, who use the most effective manures without regard to cost, are small purchasers of guano and the bi-chemical fertilizers. *They* depend on compost made of vegetable refuse, thus creating a condition of soil similar to that of fresh cleared and heavy timbered lands.

—A correspondent of the *Bee Journal* plants catnip along the fences and in out of the way places where weeds ordinarily grow, for forage for bees. He says the bees work on it in all kinds of weather. A slight frost does not kill it as it does other flowering plants, and it is in bloom from the time it first makes its appearance until killed by the frost in the fall.

—To keep up the fertility of our pastures it is evident that we must do our best to check the growth of such vegetation as is rejected by stock as well as that which would injure stock, if it were eaten. But it is not enough to destroy the useless and injurious plants; we must encourage the growth of the valuable ones. How shall these objects be accomplished?

EXTRACTS AND REPLIES.

BUNCHES ON THE THROATS OF OXEN.

I have a pair of valuable oxen that have large bunches or boils between the windpipe and jugular vein; not attatched to either, but simply in the flesh, and are sore. Otherwise well and hearty. I have not had them but a short time, and have not worked them. The bunches are located where the bow could not have been the cause of them. Will you please to inform me through your valuable paper what to do for them.

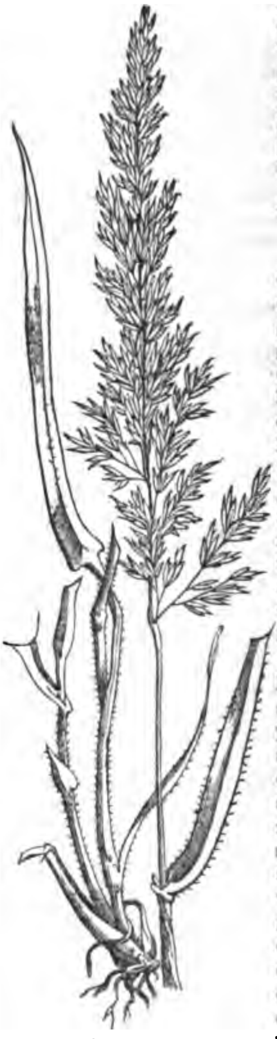
April, 1869. YOUNG FARMER.

REMARKS.—From the indefinite description given above, we can form no satisfactory opinion with regard to the nature of the disease. We should think it was an enlargement of the glands rather than boils. Take one ounce of iodide of potash, dissolve in two quarts of water. Give each of them one gill twice a day, in their food or drink. When the feed becomes good, turn out to grass.

An English veterinary surgeon describes a tumor that is common on the necks of cattle in that country, which commences in one of the thyroid glands, and slowly but gradually increases in size, feels firm when grasped, but unlike those on your oxen, evinces little tenderness. The swelling continues until it maturates and discharges sometimes by more than one opening. But this discharge effects only a partial and temporary relief; and he says that he has often found it necessary to remove them by cutting them out very carefully. In their first stages he thinks they may be dispersed by the use of "iodurets." Some rub on a salve of soot, spirits of camphor, turpentine and soft soap; others soap, salt and tar; while others still have faith in the efficacy of rubbing alone, believing that friction excites a healthy circulation of the blood, which takes away the diseased and refuse matter which causes the swelling.

MEADOW SOFT GRASS, OR VELVET GRASS.—*Holcus Lanatus.*

I send to you three heads of a kind of grass that I have noticed among my hay for a few years past. I understand that it used to be called by the old farmers "Quaker's grass," and "Rhode Island grass."



Meadow Soft Grass.

Will you tell me its true name, and also where I can find the seed? I think it is a good kind to sow upon low ground.

H. A. KING.

East Taunton, Mass., May, 1869.

REMARKS.—The common and scientific names of the grass received are given at the head of this article. In his valuable book on "Grasses and Forage Plants," Mr. C. L. Flint gives the annexed illustration and the following description of the Meadow Soft Grass, both of which we copy by his permission.

"It has its spikelets crowded in a somewhat open panicle, and an awn, with the lower part perfectly smooth. The generic characters are, two flowered spikelets jointed with the pedicels, glumes boat-shaped, membranaceous, inclosing and exceeding the flowers; lower flower perfect, its lower palea awnless and pointless, upper flower staminate only, bearing a stout bent awn below the apex. Stamens three; grain free, slightly grooved.

"This species grows from one to two feet high, stem erect, round, root perennial, fibrous, leaves four or five, with soft, downy sheaths, upper sheath much longer than its leaf, inflated, ligule obtuse, joints usually four, generally covered with soft downy hairs the points of which are turned downwards, leaves pale green, flat, broad, acute, soft on both sides, covered with delicate slender hairs. Infloresence compound panicled, of a greenish, reddish or pinkish tinge; hairy glumes, oblong, tipped with a minute bristle. Florets of two paleæ. Flowers in June. Introduced.

"This beautiful grass grows in moist fields and peaty soils, but I have found it on dry, sandy soils on Nantucket, and specimens have been sent me from Boxford and other places where it grew on upland fields, and was cultivated with other grasses. It is productive and easy of cultivation. It is of but little value either for pasture or hay, cattle not being fond of it. When once introduced it will readily spread from its light seeds which are easily dispersed by the wind. It does not merit cultivation except on poor, peaty lands, where better grasses will not succeed. This grass loses about .68 of its weight in drying, and the hay contains about 1.92 per cent of nitrogen."

OSSEOUS TUMOR.—SWELLED NECK IN SHEEP.

I wish to inquire what is the best treatment for a bunch on the upper jaw of a valuable heifer I have, three years old. It is nearly against the front grinders. It is about eight weeks since I first discovered it. Thinking it proceeded from an ulcerated tooth, I attempted to open it about ten days ago and found a substance beneath the skin that seemed like bone, through which the knife refused to pass. Blood flowed quite freely, and I have done nothing since, as I did not know what to do, fearing it was a species of wen, though I never heard of a wen being on the upper jaw. The bunch is about the size of half a hen's egg, or a little thicker.

I would also like to inquire in reference to a disease amongst my sheep. For two springs previous to this, some of my sheep have been affected with a swelling under the throat or under jaw, very soft and loose. Two years ago I slaughtered one to ascertain the cause and found it to be a watery secretion, but learned nothing further as to cause or cure. At times it would be large enough to contain a pint, and then perhaps the next day it would be gone, to return on the following day. Can you or any of your numerous readers give me any information on the above queries?

So. Scituate, R. I., May 1, 1869. J. H. Field.

Remarks.—Some years ago one of our correspondents, Mr. Milton Smith, of Middlefield, Mass., cured a "wen" on a steer, by extracting an ulcerated tooth. But from your description we fear that the bunch on your heifer's jaw is the effect of a bone disease, for which we know of no cure, other than to fatten her for the butchers.

Neither can we give you much information in relation to the disease among your sheep. Dr. Randall has a chapter on swelled neck in lambs, in his book on Sheep, in which he regards it as analogous to goitre in the human race. A bandage wet with camphor dissolved in alcohol applied to the swelling, was beneficial in the case of lambs, as was also iodine. Among the causes of goitre in people in Europe, the use of snow water, insufficient sunshine, emanations from clay soil, &c., have been suggested. A farmer in Michigan, who lost many lambs by goitre, thought he improved the condition of his flock and avoided the disease by giving them more exercise, and a daily run in an old meadow, where they could get some grass, on pleasant days in winter. Will some one of the readers of the Farmer tell Mr. Field what to do for his heifer and his sheep?

BARREN FRUIT TREES.

I have a very thrifty pear tree which is about eight inches in diameter, and about twenty feet in height; it blossoms full every spring but bears no fruit. I wish to know what can be done to make it bear fruit? A. L. Howard.

Corinth, Vt., April, 1869.

I have now a number of Baldwin trees, eight to ten inches in diameter, which have never borne a bushel of apples per tree. Is there a remedy?

Shoreham, Vt., April 26, 1869. Q. C. Rich.

Remarks.—Such cases as those mentioned above are not uncommon. The cause of barrenness is probably not always the same. It is not apparent, either, as a tree may stand on the same kind of soil, in the midst of others of the same age and variety, grow well and appear well, and yet produce no fruit! Who can tell why? Is it not very much so with animals? Our experience confirms it.

There is a very considerable difference in the age at which pear trees come into bearing. Some will produce fruit in the nursery when they are but three or four years old; others not until they are five and six; while the Dix rarely fruits until it is nine years old. Perhaps the tree to which our correspondent alludes is of that variety. This is the case, in some measure, with apple trees. But even when they have reached the age when it is supposed they ought to blossom and fruit, they sometimes fail to do so for several years in succession.

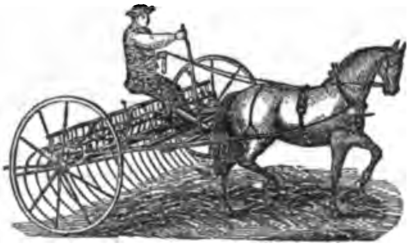
One cause of this is, occasionally, that the tree stands in very rich soil, and acquires a habit of making wood luxuriantly. Like some other things, this habit becomes a second nature, and is hard to be broken up, so that it grows somewhat extravagantly each year, but never puts on its beautiful garniture of fragrant blossoms and delicious fruits. When this is the case, cropping the soil heavily for a year or two will divert the sap in a measure from the tree, and it will produce fruit. Another practice is to remove the soil from the base of the tree—a circle large or small, according to the size of the tree—and fill the excavated place with another kind of soil. If you take away a heavy granite soil, put back a sandy loam, or the reverse.

The law of nature is, for every living thing to reproduce its kind. It holds good in trees as well as in fishes, who stem the swift currents of rivers and leap over rocks and other impediments to reach a place where they can properly deposit their eggs or spawn, and thus insure a perpetuity of their kind. The law is universal, and when it is not in operation, in tree or fish, there is a cause for it. What that cause is in your trees, no one probably precisely knows. An examination of the trees might suggest a cause, though it is rather doubtful.

Apple or pear trees, we may suggest, do not thrive well in low, wet grounds. In such places, they will not throw roots deeply into the soil, and therefore do not probably get a supply of the food which they need. They do as much better on a well-drained soil as corn, roots or grain do.

TAYLOR'S PATENT SULKEY HORSE RAKE.

While visiting State Fairs last fall we noticed an Ohio Horse Rake that attracted much attention. The teeth are cast steel, spring temper, every inch a spring, from one end to another, and being oval are stronger than any round teeth of the same weight. A spiral spring over each tooth allows it to raise or lower to accommodate itself to uneven ground. Each tooth is perfectly independent, and can be taken out or put in in an instant. It rakes perfectly clean without scratching the ground or raising up dust to injure the hay. It is so simple and easily operated that a boy who can drive a horse can manage it as well as a man. The rake is thoroughly made throughout, with extra high wheels. F. F. Holbrook & Small, Eastern agents, 10 South Market St., Boston.



DURHAM STOCK.

I have sold my Thoroughbred Short-horn Durham bull, out of Madonna 5th by John Bull, 3025, to Edward C. Pierce, of Alstead Centre, N. H., formerly of Hinsdale, Mass. The first year Mr. P. was in Alstead he preferred to let his cows go farrow, rather than to couple them with anything the neighborhood afforded.

My yearling steers weighed at a year old 1636 pounds, after being driven three miles in snow-drifts and mud. I have a pair of this spring calves that are as good, and some say better, than my yearlings were at the same age. They are by the same sire and from the same mothers.

Some think that Durham cattle must have extra keeping or they will not grow as other breeds will. But I find none gain as much on the same feed. The smartest working oxen I ever owned were grade Durhams. The bull I have just sold I bought at one year old, when thin in flesh and had never had any extra feed. I turned him to pasture with my cows and took him up nights and gave him a quart of meal night and morning for two months, and then I stopped giving the meal, as the feed was good. During the season he served one hundred and ten cows, and more than doubled his weight in less than a year. I bought a mate for him last October, and have done my work with them until I sold him. A smarter drawing ox I never owned. He is now three years old and weighs 1500 pounds.

Is not the stock from an animal kept in this manner better than one grained high and kept idle? In my opinion it is, and I should like to hear from others on the subject.

William F. Loomis.

Langdon, N. H., May 3, 1869.

CURRANT WORMS.—CROWS.

I have for several years been entirely successful in keeping worms from currant bushes, and bugs and other insects from vines, &c., by dusting them with powdered white hellebore.

I have also protected my corn fields from crows by soaking some corn in water into which a little strychnine is mixed. The death of a few individual crows from poisoned corn picked up in a field is accepted by the whole tribe as a sufficient warning, and though they may fly over it every day not one will put foot upon it. Elijah Myrick.

Groton Junction, Mass., May, 1869.

Remarks.—While we thank our correspondent for his suggestions, we must caution our readers of the great danger in having these poisons about the house or the field. Strychnine especially is a fearful poison. Some of our correspondents were successful in ridding their currant bushes of worms by sifting lime, ashes and plaster upon them, last season.

LARD FOR PIN WORMS.

At the time I read the article in the Farmer of January 2, Monthly page 87, on lard as a "remedy for intestinal worms," I had a child that was badly troubled with pin worms. We had tried all the remedies we knew of, and had just got a prescription from a physician. But as I dislike to give powerful medicines, which though affording temporary relief often result in permanent injury. I was glad to try the lard. After trying it one week, all symptoms of the worms disappeared. Thanks for that simple remedy. B. L.

Hartland, Vt., May, 1869.

Having tried the remedy published in the Farmer from the *Boston Journal of Chemistry*, for the *Ascarides* or pin worms, which was based on the idea that they breed externally, and that by oiling the external parts they were unable to do so, and would disappear in a week, I comply with the request that the result of experiments should be published, by saying that I have entirely relieved myself of a most uncomfortable annoyance, and that I wish to thank Mr. E. C. Haserick, of Lake Village, N. H., to whom the discovery, so important to man and beast, is ascribed. I consider this information worth the cost of several years' subscription to the Farmer.

One of the Afflicted.

Bethel, Conn., April, 1869.

SICK PIGS ON INDIA WHEAT STRAW.—SOUR MILK FOR LICE ON CATTLE.

The disease of which your Woodstock, Vt., correspondent's pig died, I think was caused by the bedding of India wheat straw. Some pigs that I bedded with India wheat straw were sick in the same way, and got well as soon as I put them on other straw. Sour milk or buttermilk is the best thing I ever tried to kill lice on cattle. On a warm day, wash a lousy calf all over with it and it will kill every louse and clean the skin of scurf; benefitting the calf in two ways and without the least injury. B. L.

Hartland, Vt., May 1, 1869.

THE MORGAN HORSE "VERMONT."

In consequence of the well deserved popularity of Vermont horses abroad, fears have been expressed of a deterioration in the quality of the home stock by the sale of too many of the choicest animals. That there is danger of such a result we believe many of her most intelligent breeders are fully satisfied, and we hope they will carefully guard against it. As evidence that the good horses are not all suffered to leave the State, we are informed that the animal, of which the above cut is as good a representation as could be made from a photograph, has been owned in Bradford, Vt., for sixteen years, and that his colts have commanded better prices than those of any horse ever kept in that portion of the valley of the Connecticut River. He is still owned by J. H. Peters, Esq., of Bradford, Vt.

USES OF MILLET.

In consequence of the high culture of arable lands, many farmers are enabled to winter more stock than they have pasture or "fall feed" for. Instead of fifteen hundred or two thousand pounds of good hay per acre, it is not at all uncommon now to get a ton and a half and two tons per acre, as an average, on some good farms. In extraordinary cases three tons, and up to five tons are sometimes secured. We have known the last amount to be got from an acre in a single season,—from one acre at three cuttings.

In order to eke out the grazing period, the stock is turned upon the mowing fields in autumn, which are considerably injured by being fed too close. This process injures the roots of the grass by preventing them from penetrating deeper into the soil, throwing out new fibres and generally strengthening themselves. This is one reason why so much grass is winter killed. The theory is probably a correct one, that the roots of plants must bear a pretty nearly equal proportion to the tops, in order that they may be progressive and vigorous. If such is the fact, it is not strange that the roots of grass die out, whose leaves have been eaten off perhaps a dozen times in the course of the autumn.

Where a heavy crop of grass has been taken from a field, and a second or third crop springs up, it is no injury to turn stock upon it and allow them to graze it moderately. Indeed, it is perhaps beneficial, as a dense mass of aftermath if covered with snow for many weeks in succession, sometimes rots the grass and the crowns of the roots, so that large numbers die.

What is needed, then, is something to feed the stock upon when the pastures are exhausted by grazing them, or by drought or any other cause.

To accomplish this, resort is had to Indian corn, by sowing it thickly in drills, at different periods, and cutting and feeding it while in a green and juicy state. This is of easy culture, is quite a certain crop, and is said to be nutritious and causing a free flow of milk. What is not needed in this way, is usually dried and used as winter fodder. Sweet corn is said to be far preferable for this purpose.

Various other plants are employed for the same purpose, such as oats, Hungarian grass, rye, clover, &c. One among them, and of great merit, is *millet*.

There are several varieties of millet, but in this connection we shall speak of only one, the "common millet," such as has been cultivated in New England for many years. It rises with a reed-like channeled stalk, from three to four feet high; at every joint there is one reed-like leaf, joined on the top of the sheath, which embraces and covers that joint of the stalk below the leaf, and is clothed with soft hairs; the leaf has none, but has several small longitudinal furrows running parallel to the midrib. The stalk is terminated by a large, loose panicle hanging on one side. This variety is one of the smallest, has much leaf and the head branches out something as our red top grass does, and affording a great deal of fine, juicy fodder.

Mr. Flint in his *Milch Cows and Dairy Farming*, says, "it is a very valuable crop for fodder in soiling, or to cure for winter use, but especially to feed out during our usual period of droughts. If designed to cut for green fodder, half a bushel of seed to the acre should be used; if to ripen seed, twelve quarts, sown broadcast, about the last of May or early in June. * * * It is very palatable and nutritious for milch cows, both green and when properly cured. The curing should be very much like that of clover, care being taken not to over-dry it. For fodder,—either green or cured, it should be cut before ripening. In this state all cattle eat it as readily as green corn, and a less extent will feed them."

This variety of millet is worthy of a more widely extended cultivation, for several reasons. It may be got into the ground a little after the hurry of Indian corn planting is over. What is not wanted for green fodder may be cured at a quarter part of the cost of curing fodder corn, and is more easily cut up and taken to the stock than corn. It may be cut with the scythe and pitched upon the cart as grass is cut and loaded. The plant being a small one compared with corn, there is less waste in its use.

It requires a good soil, such as will produce a fair crop of Indian corn.

WHY BEES SWARM.

The bee-folk are an intense people in their way, but with all their zeal and study, they are at loggerheads over the commonest concerns of the hive. At a recent meeting of the Michigan Bee Keeper's Association, which is reported in the *Prairie Farmer*, the question was asked, why do bees swarm? Which was discussed theologically, scientifically and naturally, after this sort:—

A gentleman present regarded this question of no practical importance. It was enough to know that bees do swarm. To inquire into the why of their swarming would be a waste of time.

Mr. Otis did not so regard the inquiry. He wanted to know the why, and should not rest until the problem is solved. The strongest instinct God has given to the honey-bee is the love of storing honey. This instinct is so strong that she will remove the young larva from its cells and destroy it, that she may make room for the gathered honey. But she does not thus destroy the brood unless crowded for room by an unexpected rich harvest of honey. It is to guard against the destruction of the brood that queen cells are started preparatory to swarming, which takes place as soon as one or more is sealed over.

The Creator has implanted in the queen bee such unparalelled hatred towards a rival that but one normal queen is permitted to live in a family of bees. This hatred is so strongly developed that she will make divers attempts to destroy a rival while yet in the cell. But the worker bees keep the cells guarded, which so exasperates the old queen by the time one or more is sealed, that she rushes from the hive to find a new home, being accompanied by the majority of the colony. These are, therefore, the reason why bees swarm:—

1st. The want of combs to hold honey.
2d. To save the destruction of the brood.
3d. The hatred between rival queens.

This fine theory was somewhat marred as follows:—

Dr. Conklin.—My bees do not always wait until they have *sealed* queen-cells. Two years ago I opened a hive of bees as soon as the swarm had left, and found no queen-cells—no, not even the signs of any being started.

Mr. Baldridge.—If I understand friend Otis rightly, he assumes that bees do not swarm until the hive is full of comb, and the comb is full of brood and stores. And not then, even, unless there is one or more cells sealed. Now, my bees swarm sometimes when the cavity is not more than two-thirds full. I think it is *natural* at the proper season for bees to swarm. As a rule, the cavity will be full, the combs well supplied with brood and stores, one or more queen cells sealed, and the flowers secreting honey rapidly when the swarm issues.

Mr. Moon.—My bees also swarm when the cavity is only part full. They also swarm when they have no queen-cells started. The cause is excessive heat. Bees will swarm at certain seasons of the year, when there is no apparent cause; in the honey season it is as natural for the bees to swarm as for the sun to rise or the tide to flow.—*Ohio Farmer*.

Rice, the great staple of South Carolina, the cultivation of which was confined to the river swamp lands, is now grown on the uplands. The seed of the swamp rice is used.

DURABILITY OF HORSES.

Perhaps one of the most important changes which indicate progress in agriculture, is the longer duration of some of our domestic animals. Fifty years ago, it was thought that a cow that had reached eight years had passed into old age, and must be turned to beef. So if a horse had got into his teens, he could not eat well, or if he could, he had passed the period when his services could be made profitable, and the conclusion was, that the poor old horse must die.

As a cow does not come to her full power of production until she is six or seven years old, and as there are three of these years when she does not pay for her keeping, the whole productive time of her life is reduced to some four or five years, if she is turned off at eight.

A horse should never be put to full labor until he has reached the age of eight years. He may do a little light labor every day after attaining the age of three years, and when past four, do much more than enough to pay the cost of keeping. But it is neither profitable nor expedient in any way to put him to steady labor on the road or on the farm, until he has reached the age of eight years. The first three years of his life ought to be a bill of cost, if he is to be sound to start with, and is expected to endure until he is twenty-five to thirty years of age.

A large number of all New England horses are spoiled before they are three years old, either by mistaken notions in feeding, by too quick movements on the road, or by too heavy loads on the farm. If in feeding, it is by one of two extremes—neglecting the medium course, and feeding high with too stimulating food, or too low, with damaged or innutritious hay. Clean, sweet fodder, regularity in feeding, and cleanliness and proper ventilation in the stalls, are absolutely essential in securing soundness in a horse. When these are observed, and the horse is properly managed in working him, he will endure from twenty-five to thirty years and prove a faithful and profitable servant. We have heard of instances where they have continued sound and serviceable much longer than that.

We know of horses now, that have been out of their "teens" more than ten years, that are smooth and entirely sound in wind and limb. They are in daily use, are strong, and if remaining idle a day or two, come from their stalls as "gay as a lark." It is a real pleasure to hold the reins behind such animals, because they are old acquaintances, are long and well-tried servants, and one feels safe himself, and feels that his family is safe, in driving them.

The complicated structure of the horse, and the artificial life which he lives, are matters which every good master will consider. In a natural state he would rarely, if ever, indulge in an exercise which would cause the perspiration to drip from his sides or trickle down his haunches. But this is no unusual occurrence under our hands, and too often when he is in this condition, he is made to stand still, uncovered, in a cutting blast that penetrates to the very bones, checking the healthy action of the skin, stopping the pores, and thus inducing disease in one form or another.

On the farm, he is often treated with the same culpable negligence. He is greatly overloaded, and after taxing all his powers to take the load to its destination, stands, uncovered, in the cold north wind until the load is discharged. This process goes on through the day, or for many days; heating and suddenly cooling the system, until the animal powers are so weakened that fevers, cramps, catarrhs, or permanent colds and coughs are seated so as never to be removed! No wonder that eight out of every ten horses that pass us are lame or diseased in some way. A sudden cold applied to the skin often brings on a derangement of the functions of the system which ends in what is called a surfeit.

As there must be several years in the life of a horse when he will be an expense to his owner, it is desirable that his usefulness be continued at as late a period as possible. This may be done by observing the foregoing suggestions, and many a valuable servant be continued for years beyond the period when it is supposed he becomes unprofitable.

—Prof. A. S. Packard, of Salem, Mass., thinks that insects injurious to vegetation may be most successfully combatted by rearing their parasites, or such insects as prey on those which attack our crops, and suggests that each State should appoint one or more insect commissioners whose chief duty should be the propagation of parasitic insects.

IMPROVE AND BEAUTIFY THE HIGHWAYS.

OUR public roads are designed not only to facilitate intercourse, but also to render travel and transportation safe and easy. In former times, when long stretches of road had to be made and kept in repair by a few people with limited means, we travelled patiently over rough and imperfect roads, but now that our population has become numerous, and comparatively wealthy, we are no longer required to make a virtue of necessity, but should add the conditions of ease and safety, and so far as practicable, should render travel pleasant and agreeable. None of our cities and towns should be satisfied with their roads being merely passable; they should be made safe and easy both for teams and for pleasure travel.

The town in which we reside has expended large sums upon its roads, and has roads that are generally thought to be in good condition, and yet we will undertake to say that there is not a mile of road in town upon which there is not one or more places where a carriage might be upset. A few years since a man was thrown from his wagon, by his wheel striking a rock not three feet from the rut, on a much frequented road, where many carriages daily pass, and the town had to pay more than two hundred dollars for damages. Another instance occurred in which a gentleman was driving a high-spirited horse over a piece of road, where a narrow road bed had been thrown up, leaving a gully upon the side. The horse suddenly jumped out of the road, and the gentleman was thrown out of the wagon and dislocated an elbow and fractured an ankle.

Even where there is sufficient space enclosed, we often find a road bed thrown up scarcely wide enough for two carriages to pass; with a bank upon the side, and a deep gully between the bank and the road bed, or stumps or rocks on the side of the path, or a cut through a ledge barely sufficient to allow a team to pass, with the broken ragged rocks of the ledge protruding within a few inches of the wheels. Then we often see on the ascent of some steep hill a sort of canal worked into the face of the hill, just wide enough to allow a carriage to pass, the excavated soil being carried on to low ground at the foot, and built up into a road bed, eight or ten feet wide, with a deep gully on each side.

Now can travel on such roads be called safe, especially as they are passed at all times of the night as well as day? And yet how many such instances are found in all our towns. The travelled way on most of our roads should be made wider. In fact, the whole space enclosed as a road should be made level, or at least so level that it would be impossible to upset a carriage, without some very unusual accident. Ploughing out the sides and throwing the soil into the middle of the road, so generally practiced on country roads, is a custom attended with no small danger, and should be discontinued. The leaving of banks one, two or three feet high, by the sides of the travelled way, is a dangerous practice, as a frightened or unmanageable horse may readily run one wheel upon it, and upset a carriage. Roads should be carefully cleared of boulders and stumps and logs, and not used as depositories of lumber, broken carts, or other decayed farm implements, and every obstruction that can endanger carriages by running upon them. The absolute safety of travellers requires more attention to this subject than is usually given to it.

When roads have been made passable and safe, then the ease of draft must be attended to. In constructing a new road, all the conditions necessary to a highway should be regarded. Roads should not be made of common soil or loam, but of some material that will become compact and hard, and firmly keep its place. It can be made to keep its place only by proper drainage. That will prevent it from becoming gullied by the wheels.

A road for a distance of ten miles may be a good road; that is, most of it is good. But a few places it that distance of perhaps only a rod or two each of heavy sand, in which the wheels of a loaded team sink over the felloes, or two or three sharp ascents in that distance make the addition of an extra horse necessary to haul a load to market. Were every part of the road as good as nine-tenths of it are, two horses could draw a load over it that now requires three. This diminishes the farmer's profit to the extent of the cost and keeping of one horse. It is the hard spots in the road that strain and injure both team and carriage. If the spots of heavy sand or deep mud and the sharp pitches in our roads were once effectually repaired, we fully believe that one-fourth at least of the horse power now used upon them might be dispensed with, and a large portion of the annual expense of repairs saved. For a road once well made becomes a permanent institution, and is easily and cheaply kept in repair. This is a very important matter to the farming interest, which has to bear the chief burden of repairing country roads.

In a large portion of the Eastern States, we have arrived at that degree of wealth and density of population which justifies attention not only to the safety and ease of travel, but also to the condition of the enclosing fences and borders. These should be pleasant and agreeable to the eye of travellers. The abuttors on our roads should feel a pride in keeping the fences in a neat and tidy condition. Tumble-down walls and broken fences should no longer be suffered by the road-side.

A substantial faced stone wall is undoubtedly the best fence for the road-side in most parts of New England. We have in our mind two gentlemen who have within the past year built a mile of such wall upon the road-side. The walls are straight upon the face, and of uniform height, rising in regular curves over the inequalities of the ground, and present to the passers a beautiful appearance,—if beauty may be predicated of a stone wall; and so far, at least, as fitness is an element of beauty, we think it may. Good walls indicate not only thrift, but good taste and public spirit in their owners, and not unfrequently add more than their cost to the value of their estates.

There is more attention paid to this subject than formerly, and it indicates increasing intelligence and good tastè in our farming population. In many villages ornamental trees are being planted by the road-side, and are adding annually to their beauty and attractiveness. Why should not this be done outside of the village limits, in all parts of our towns? Why should not every farmer, as some have already done, plant trees upon the road passing his own premises? The practice would add much to the good appearance of their farms and dwellings, and to the pleasure of travelling upon our highways, and also provide a growth of timber that would be of great value in the future. Let trees be selected that are suited to the soil, and properly protected, and the work is done. Our children, as they enjoy the beauty and shade, will bless the memories of those who planted them.

OREGON.

We have received the first number of the *Willamette Farmer*, published weekly, at Salem, Oregon, by A. L. Stinson, at $2.50 per year,—John Minto, editor. It is a fair sized sheet of eight pages, and is better filled than almost any other first number of an agricultural paper that we have ever seen. The first sentence in its first column, "The great want of Oregon is a home market for her products," expresses a truth by no means local, but one which is not sufficiently appreciated by farmers generally, in Oregon or elsewhere. The writer proceeds,—"Oregon needs consumers. She needs a population devoted to other than agricultural pursuits. Her grain fields, teeming with superabundant breadstuffs, yield but a poor profit to the farmer, after deducting the heavy expense of transportation in search of a distant and too often uncertain market. The limited home demand will not permit the transformation of grain into flesh by feeding it to animals, as in other countries. Lands do not increase in value, because profits do not result from investments therein."

These are words of wisdom,—the teachings of actual experience in a new country, which are seldom appreciated by emigrants from old manufacturing and mechanical sections, until after they have tried it.

The last column of this paper contains a very neat report of markets at home and abroad. At Salem, March 1, best wheat 65c, oats 49 and 50c, potatoes 37 and 50c, lard 10 and 15c, flour $4 and 5; eggs 25c, &c.

The past winter we judge from several paragraphs has been unusually mild. It is remarked that "in town and country many have commenced gardening, and that the weather during the past ten days (in March) has been almost equal to the warmest of May." Yet it is said that "the more than ordinary length of last year's dry season, made short bites of this winter's grazing, and but for the extraordinary mild weather we have had, many animals that are compelled to shift for themselves would have succombed and been lost. As it is, stock of the larger kinds are thin, except where they have received attention and feed. Sheep are in tolerable condition and good heart." It is also remarked that during the past month (February) the ploughs have been going briskly, and are still going, preparing for spring crops." It is said that owing to the late setting-in of the autumn's rain, not more than one-half the usual amount of wheat was sown last fall.

The editor alludes to the scarcity of good cows, to the lack of attention to their management and care, and believes that those who have suitable land—very much, he admits, is unsuitable—will find a dairy quite profitable. Drovers pay four to eight dollars for calves, ten for yearlings, fifteen for two-year-olds, and about twenty dollars for cows, in store condition; sheep about $1.50 per head, with half that value of wool on their backs.

We also notice among the many appropriate articles which fill the columns of this first number of the *Willamette Farmer*, the commencement of a series of articles on the agricultural and geographical statistics of Oregon, beginning with Clatsop County, which has the Pacific Ocean for its western boundary and the Columbia river for its northern. This part of the State, as you approach it from the water, has a rough and forbidding appearance. The coast mountains and a range of hills and bluffs along the river shuts out of view the beautiful valleys, which have a rich soil, adapted to grass, grain, vegetables, fruit, &c., while coal and iron are known to exist, though mines have not yet been developed. Extensive tracts are still unoccupied, not even surveyed. This section is very healthy, even fever and ague being unknown. Here the thermometer seldom indicates over 75 degrees in summer or under 15 in winter. The timber is fir, cedar, spruce, hemlock, ash, maple, alder, &c. In mineral wealth it is claimed that Oregon is not one whit behind California.

But, really, we did not propose to copy the whole of this paper by way of "notice," but we find so many good things in it, so much information in relation to the resources of this far-off portion of our great country, that we hardly know where to stop. If any word of ours could reach the people of Oregon or those interested in its prosperity, that word would be to advise them to sustain this new enterprise by their money and their pens, as it is very evident it is now in the hands of men who have the right idea of what an agricultural paper should be. But in these days "brick is not made without straw," nor good agricultural papers without the proper material, which farmers alone can furnish.

Poisonous Flour.—Last year considerable excitement was occasioned in the State of New York by the fact that all who ate of a certain lot of flour ground in that section were more or less poisoned. This was accounted for at the time on the hypothesis of a small quantity of lead having been ground up with the flour. In the *American Entomologist* for May, Dr. Walsh, suggests that the flour was made from a lot of very buggy wheat. He says that the black Snout-beetle,—*Sitophilus granarius*,—about one-fifth of an inch long, which is commonly found in granaries, has been used successfully at the South as a substitute for the Spanish Blister-beetle—*Cantharides*, which are known to be fatally poisonous when taken internally. He also quotes the opinion of a medical man that these grain weevils were about as poisonous as the *Cantharides*.

NEW PUBLICATIONS.

Land and Fresh Water Shells of North America. Part I. Pulmonata Geophila. By W. G Binney and T. Bland, Smithsonian Institution. Washington, 1869.

In one of his articles on insects, Dr. Walsh, of the *American Entomologist*, says "it is astonishing how the great majority of mankind go through the world with their eyes shut." Here is a volume of 328 pages, illustrated by about three times as many cuts, mostly drawn by E. S. Morse, of Salem, Mass., all about the snail and other shells found on the land and in the fresh water of North America. And yet how few of us think these little shells worthy of notice, or care to know anything of the history or habits of the beings which produced them. Did you ever see a snail eat? Mr. Binney says, "their natural food is vegetable; and the formation of the mouth and the organs with which it is armed seems to be peculiarly well adapted for cutting fruits and the succulent leaves of plants. The dental (tooth) edge of the upper jaw being applied against the substance to be eaten the semilunar (half-moon) rough instrument called the tongue is brought against it, cutting out and carrying into the mouth semicircular portions of nutriment. This operation is carried on with great rapidity, and the substance to be eaten soon disappears," although the snail has become with us a proverb of slowness. This important member,—the toothed tongue—varies much in different species, of which a great number of illustrations are given.

This work, however, is so strictly scientific that it will be more interesting to the student of natural history than to the general reader.

Agricultural Education.—It is generally understood that to be an expert in either chemistry, or geology, or physiology, or botany, or meteorology, or zoology, one must devote himself pretty exclusively to its study and practice. The talk therefore of acquiring a full knowledge of *all* these and several other sciences by a few terms at an agricultural college is so absurd as to create doubts in the minds of many as to the practical value of all agricultural education.' But if old or young farmers can learn just enough of these sciences to understand the teachings of those who make them a a profession, and to comprehend the facts and discoveries which are made by them, we think much practical good will result. In speaking of the chemical principles and operation of manures Dr. Nichols says, in his "Chemistry of the Farm and the Sea:"—"It is not necessary that farmers should be practical chemists to be successful in the employment of fertilizing agencies. A few simple principles furnished by chemistry, if well understood, and earnestly adopted, *will enable any one to appropriate to his benefit all the important facts unfolded by science* in respect to manurial applications," and we may add in respect to any other subject. Though we may not be able to unfold these facts ourselves; may not be able to take all the steps or understand all the processes of a scientific investigation or experiment, may we not hope to qualify ourselves to understand and turn to our own advantage the results of the investigations and experiments of the most thoroughly scientific?

GAY LITTLE DANDELION.

Gay little Dandelion
  Lights up the meads,
Swings on her slender foot,
  Telleth her beads,
Lists to the robin's note
  Poured from above;
Wise little Dandelion
  Asks not for love.

Pale little Dandelion
  In her white shroud,
Heareth the angel breeze
  Call from the cloud.
Tiny plumes fluttering
  Make no delay;
Little wing'd Dandelion
  Soareth away.

For the New England Farmer.

APPLE-TREE BORERS.

It is not without some degree of reluctance that I take up my pen to give the readers of the FARMER what I believe to be some facts relating to the Apple Tree Borer—*Saperda bivittati*. The large number of communications which are yearly written to editors of agricultural papers on this subject is an evidence that it is one of importance, and the great variety of recommendations they contain convinces me that the habits of this pest of the orchard are as yet comparatively unknown. A large number of writers recommend plugging up the holes with various substances to kill the borer. The best writers in the country on fruit trees and on insects suggest, if they do not recommend the same remedy.

For nearly forty years I have not only been a close observer of the habits of the borer, but with the exception of the last few years, I have with my own hands been engaged in active warfare against his depredations. This experience teaches me that when the borer has made a hole in a tree that can be stopped up, his work of destruction has ceased.

Let me describe how he operates on my orchard. The eggs, from three to five in number, are deposited on the trunk or root of the tree about even with the surface of the soil. The miller in selecting a proper place to deposit her eggs, will, if possible, find an indentation caused by an old wound, if the wound is partially healed. The eggs will be deposited on the upper side in such manner as to protect them from any liquids which may run down the trunk of the tree. If a root is permitted to grow so far above the surface of the ground as to allow the miller to find her way to the under side, she is sure to deposit her eggs there, and thus secure a place of safety for her young.

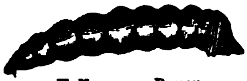
The eggs are deposited during the summer months, most of them during July. As soon as the eggs are hatched the worms commence to eat their way *down*, making at first very small holes hardly visible to the unassisted eye. As they eat at first only the soft bark which lies near the wood of the tree, nothing is visible to the most experienced observer except very small black specks where they entered.

A careless observer examines his trees, and seeing nothing, passes on, believing them all right, while the work of destruction goes bravely on; while a careful observer, who understands their habits, will sometime in September remove a few inches of the soil, and with a good-sized, sharp-pointed knife slightly scrape the bark of the tree in such places as he suspects that eggs may have been deposited. On discovering the black specks where the worms have entered, with the point of his knife he removes the outside bark and follows the passage which each worm has made until he finds and kills them all.

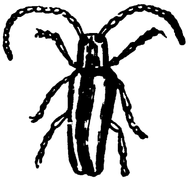
In September they are usually found from two to five inches below the point they entered. There is not usually more than two or three eggs that hatch at one point, but if the tree be large there are frequently several clusters deposited on different sides of it.

If carefully removed the first season, the tree receives no perceptible injury; but if, as is usually the case, the borer is permitted to remain another year, he winters about five inches *below* where he entered. During the next spring and summer he eats his way back and forth between where the eggs were deposited and where he wintered. As he grows larger he eats not only the bark but also portions of the wood of the tree; and the last time he ascends he feeds entirely on the wood, leaving the bark projecting over the side of his passage way.

In September of the second year it is very uncertain where he can be found. Sometimes he is at the very lowest point he has ever reached, while at other times he has eaten his way back to about where the eggs were deposited; or he may be eating his way on the sides between the two points named. On ascending he usually selects the same point where the egg was hatched, and bores a hole nearly directly under it. The only injury he does after this is to bore a single passage way in the wood of the tree from six to nine inches in length. At the top of this he changes to a miller, ready to leave his winter quarters when summer approaches.



Full grown Borer.



Perfect State.

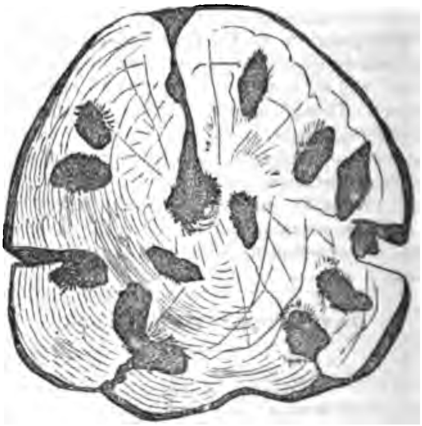
After trying a great number of experiments I have found the best and most convenient way to protect an orchard from the depredations of the borer, is to make a small mould of fine gravel or coarse sand around the trunk of each tree sometime in May. The object of this is to cover all roots and uneven places on the trunk of the tree near the ground, and to keep as dry as possible the places where the eggs must be deposited. In order to hatch, an egg seems to require some degree of moisture. I have never seen an egg hatch where dry sand came in direct contact with a smooth surface.

In September of each year the mounds should be removed, and the trees examined. An experienced hand will examine three hundred trees per day. When an orchard is once cleared of borers, it requires but very little labor to keep them out. If the business is understood, one examination each year during September or October is sufficient. I have found by bitter experience that neither lime nor ashes will keep the borers from the trees on my land, and I have long since come to the conclusion that nothing should lay in contact with the trunks of my trees except fresh earth.

E. HERSEY.

Hingham, Mass., May, 1869.

REMARKS. — We have usually found a mound of cuttings or excrements marking the entrance of the newly hatched worm, from half to three-fourths of an inch in height, and not much larger round than a common darning-needle. The recommendations for plugging up the holes of the borer, in which we have little faith, we have understood as intended to apply to their entrances into the wood, which is marked by larger and coarser cuttings, and not to the nice little round hole a few inches from the ground where they make their exit. We have often fished them out from their passage ways with a bit of barbed wire. We believe our correspondent is right in his statement that the borer first eats down and roundabout, and that he does most of his injury to the tree before he enters upon the excavation of his Hoosac tunnel, which terminates in the round hold from which he emerges. To stop up that would indeed be closing the stable after the steed was stolen.



Work of a Borer in the trunk of an Apple Tree.

Still they sometimes so weaken the trunk that the tree is broken down by the wind, or falls of its own weight. The extent to which their perforations are sometimes carried is illustrated by the above cut of a section of the trunk of a tree infested by borers. We have preserved several other similar specimens.

For the New England Farmer.

HYDRAULIC CEMENT.

My occupation being laying cement water pipe, I have been much interested by the inquiries and articles upon the subject that have lately appeared in the FARMER. Having made this business a study and specialty for several years, I submit a few remarks upon the subject.

Hydraulic cement is made of a compound limestone, which usually contains the following impurities: carbonate of lime, carbonate of magnesia, silica, alumina, oxide of iron, and a small amount of alkali. To these impurities is due its property of hardening under water. As this stone will not slake like pure limestone it is reduced to a powder by grinding.

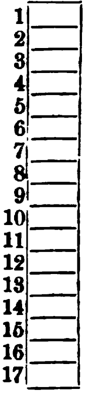
This stone is found in the valleys of the chain of mountains which traverse the eastern part of the State of New York, and also in other parts of the United States. The fact of its being first discovered in the town of Rosendale gave it the name of Rosendale Cement.

This sedimentary rock is divided into many layers. In Ulster County, N. Y., where most of the stone of which the cement for our

Eastern markets is quarried, it is about forty-six feet in thickness and is divided into seventeen layers, varying much in character and hydraulic properties. These layers themselves often vary much in short distances.

To make the subject more plain and show why casks of cement, often of the same lot, vary so much in quality we will draw a sketch of the layers as they usually occur in the quarry.

Layers.



The layers No. 1 and 2 make a good cement, which sets in about fifteen minutes. No. 3 makes a cement which sets in half the time of 1 and 2, but it contains an excess of caustic lime which slakes and cracks it to pieces in about an hour. No. 4 makes a good cement. No. 5, like No. 3, makes a worthless cement. No. 6 usually makes poor cement. No. 7, in some localities, makes good and in others poor cement. No. 8 will not make good cement. The layers from No. 9 to 16, when mixed together, make good cement. No. 17 makes poor.

From this it will be seen that there is a liability of sometimes getting too great a proportion of the objectionable layers, and when this is the case, poor cement is the result.

During the last three years we have found much more poor cement than in former years; probably owing to the fact that there has been a greater quantity used since the war, and manufacturers having been pressed to supply the demand, have used less caution in selecting the stone.

Cement is said to be set when it has left the state of mortar and become sufficiently hard to break and crumble. The time required for different cements to set varies from a few minutes to eighteen or twenty hours. The time required for a cement to set is not proof of its good or poor quality. Cement which contains a ruinous quantity of carbonate of lime usually sets very quickly, and some quick-setting cements are good.

The best cement known—natural Portland—which is made in Portland, France, requires about eighteen hours to set. The artificial Portland cement—an excellent cement—sets in a few minutes. Our American cements answer all common purposes, and their price is only about one-fourth as much as those imported.

Age and moisture injure and destroy the hydraulic energy and power of cement. Cement in casks, kept one year as dry as it conveniently can be, makes work that is only about half as strong and hard as work made of new cement.

There is a great difference between *setting* and hardening. It requires a long period of time for cement to harden properly. For weeks after it has set, it remains so tender that it can be easily broken and crumbled with the hands, but in time it becomes nearly as hard as common limestone. Work made of good cement requires about a year to get strong and hard. If blocks made of it and put in a damp place to harden, will sustain at the expiration of a month 100 pound weight before breaking, will at the end of two months, sustain 200 pounds weight; at the end of three months 300, and keep increasing in strength for over a year.

As some water contains impurities that prevent or retard the hardening of the cement, it should be wet up with that which is pure.

Some of your correspondents object to the use of cement for tanks, &c., to hold the liquid of the stable, and think such liquids will destroy cement work. To which I will say that these liquids will injure new cement work and prevent its hardening; but if the tank were to remain six months or more, kept moist with pure water, stable liquids will not injure it. I have made some work for this purpose, and have not heard but that they prove well. I use no brick in such work.

But I find I am writing a long letter, a fault we are apt to be guilty of when writing on a favorite topic. My purpose was chiefly to call attention to one cause of frequent failures in the use of cement. The importance of a good article in the construction of dams, piers or bridges, &c., as well as in making drains, cisterns, &c., should lead mechanics to a more careful study of the subject, and to a closer inspection of every cask of the material used. Were this done I apprehend that less failures would occur in its use on the farm, and less dams and piers would give way to the force of our annual floods. B. LIVERMORE.

Hartland, Vt., May 4, 1869.

For the New England Farmer.

BREEDS AND MANAGEMENT OF POULTRY.

As you published my poultry account, perhaps those who were interested enough to read it will like to know something about the breed of fowls kept and their management. The fowls are the Asiatic breed, light colored, with pencilled necks and yellow legs, and weigh, hens from 5½ to 7½ lbs., cocks, from 8 to 10 lbs. at maturity. They were obtained by purchasing the *best* I could get in this vicinity and keeping the *best* of their produce.

The geese were purchased of a party who advertised in your paper (none the worse for that) as being pure Bremen, but they are mongrel and weigh about 12 to 15 lbs. each.

The turkeys are mostly bronze, the hens weigh from 13 to 15 lbs., gobbler at two years old, 25 lbs.

In regard to feeding, I keep corn and oats and Indian meal dough mixed with sour milk, when we have it, constantly by the stock poultry; but young chicks and turks are fed only what they will eat up clean, but are fed often. The goslings are allowed all the grain they can eat, in addition to a good pasture, until about three months old, when they are shut up to finish off on corn meal and beef scraps, which usually takes about three weeks.

I have a few words which I wish to say to those about to purchase poultry of fancy dealers. In the first place there are three classes of them; the first, and in my experience the largest, are dishonest men, who tell you that their poultry is "extra fine," "second to none in America" and that for the mere trifle of $10 he will send you a pair of the desired breed, *the cash to accompany the order*, and if the birds don't suit he will refund the money. Now that sounds pretty well until you come to try it on. The birds arrive, do not suit, the express charges are three dollars, the return express three dollars more, which would leave you six dollars out any way, and the ten dollars come back minus the charges for boxing and various imaginary expenses. Taking an account of stock after this transaction you will find yourself just about $10 out, if you order from 100 to 200 miles from home. The next class is composed of honest men who do not know what good poultry is. The third class are honest men who do know. The only fair way is to have the birds sent "C. O. D."—that is, bill payable on delivery, and in case the birds are not accepted the would be purchaser to pay one-half the express bill.

I have seen several accounts in the papers, lately in regard to setting turkey hens at any season of the year, whether broody or not. I kept several over winter for the purpose of hatching out my surplus goose eggs, and although I followed the directions, *verbatim et literatim*, they would not sit; after trying several of them twice, I came to the conclusion that Josh Billings knew what he was about when he said "the best time to set a hen is when the hen is ready," and that the rule is equally applicable to hen turkeys. If any one has had better success, I should like to hear the particulars. If desirable, I will give my management of winter chicks in my next.

Theodore G. Lincoln.

Taunton, Mass., April 30, 1869.

ROTATION IN THE VEGETABLE GARDEN.

A writer in the English *Gardeners' Magazine* says that one of the great secrets in working old vegetable gardens is to prevent as much as possible plants of the Brassica tribe from following each other. He thinks that the continual digging in of the rotten remains of cabbages, cauliflowers, &c., has a tendency to cause the disease called club. Raspberries and strawberries which have stood, it may be years, on the same ground, offer, when broken, excellent opportunity for any of the cabbage tribe; in fact one not to be lost.

Another difficulty arises in getting proper plots for onions and carrots, as in the majority of old gardens, they are so liable to the grub. He has found that the more ground is manured for the two latter crops, the more liable they are to the grub.

Old asparagus beds are another excellent resource to fall back on, but there are generally so many candidates for ground of this kind, that the difficulty is to choose. His plan for many years has been to follow the brassica tribe with peas, giving no manure The peas he follows with celery. By sowing two rows of peas at a time he gains when the peas are sown on a celery bed. The celery being pricked out at a good distance, say six inches apart, is prepared to await the removal of the peas successively. He sows celery late and grows it quick, as that is the only way to have it crisp and tender.

He makes it a rule to break up a bed or beds of asparagus every year, and to plant an equal quantity. He plants the asparagus on the celery ground, and the beds he intends for asparagus he manures very deep, putting old half-rotten leaves at the bottom and planting the celery in the old manure at top. When the celery is removed the ground is in excellent order for the asparagus. The beds being six feet wide he plants two rows in a bed, 30 inches between the rows, and the plants a foot apart, leaving a shoulder of 18 inches on each side of the bed. This answers admirably. The old beds of asparagus which are broken up are then forced, and he has strong plants in rows a yard apart of three years' standing, which he takes up and forces in succession. He grows Cape and other autumn broccoli and cauliflower in another plot constituting a different rotation.

MR. LANG'S SALE.

A full report of the sale of horses by Col. Thomas S. Lang of North Vassalboro', Me., May 11, is given by a correspondent of the *Boston Journal*. The attendance of buyers was not as large as was expected, and the sale is represented as far from spirited, and the prices obtained as extremely low.

The *Maine Farmer* says:—

"The aggregate amount realized from the horses sold was $6320; and it may be added that the animals were sold at figures very far below their real value, and much less, in many instances, than could have been obtained at private sale. The neat stock announced in the catalogue to be sold were withdrawn. Among the prominent gentlemen in attendance at the sale was Mr. Winthrop W. Chenery, of the Belmont Stock Farm, Somerville, Mass.

"It is with much regret that we chronicle the sale of these animals, and the breaking up of the breeding establishment, which under Mr. Lang's management has accomplished so much towards making for our State the high reputation it has achieved in the production of fine horses. His stud has for several years past attracted hither the most eminent breeders in our country, anxious to observe his judicious and careful system of breeding and general management, and we feel sure, if his health had allowed him to have fully carried out his plans in this direction, far more satisfactory results would have been reached. These efforts will always be held in grateful remembrance by every intelligent citizen of our State, and wherever he may go, or in whatever business engage, their and our best wishes for health and success will follow him."

Twenty-one horses were sold, all to purchasers within the State, at the following prices:—

Nellie, 3 years, G. R. Lancaster, Bangor, $225.
Will-o'the-wisp, 4 years, L. Clay, Esq., Gardiner, $220.
Starlight, 3 years, James Edgecomb, Brownfield, $150.
Moonlight, 3 years. James Edgecomb, Brownfield, $85.
May Queen, 5 years, R B. Shepard, Skowhegan, $520.
Lady Ellsworth, 5 years, Wm. H. Strickland, Bangor, $425.
Reliance, 5 years, [purchased by a party in Augusta] $180.
Cad and Kit, 4 and 5 years, [matched pair] Geo. Alden, Augusta, $475.
Namouna, 5 years, David Ames. Rockland, $600.
Mayflower, 4 years, Mr. Babb, Bangor, $385.
Bessie, 5 years, Wm. Richards. Gardiner, $460.
Annie, 6 years, L. Clay, Esq., Gardiner, $255.
Plymouth Rock, 4 years, Mr. Webb, Lewiston, $620.
Right Bower, 1 year, Mr. Monroe, Abbott, $240.
King Herod, 1 year, Jas. Edgecomb, Brownfield, $105.
Black Flag, 1 year, Samuel Guild. Augusta, $100.
Singed Cat, 1 year, Mr. Pillsbury, Unity, $90.
Gray mare [no name] 9 yrs., B. F. Hersom, Waterville, $180.
Lady Grant. 3 years, F. R. Webber, St. Albans, $175.
Nickawa, 2d, 2 years, J. F. Hunnewell, China $55.
Hortense. [thoroughbred] J. H. Gilbreth, Kendall's Mills, $425.

Teaching Young Calves to Drink.—I think I have discovered a new and much easier and better mode of teaching young calves to drink, than any of the old ways practiced by my father and neighbors in the olden time, and by most people to the present.

My practice is to take the calf from the cow at the end of twenty-four hours, and fasten it with about six feet of rope in a box stall; I then milk the cow, and standing off just far enough for the calf to reach me, I wet my finger with milk, put it in its mouth, and gently lower my hand until it is immersed in the milk in the pail—let it continue to have the finger until I have given it enough. This I call lesson No. 1. The second lesson is given in this wise: Dip the finger in the milk and place it in its mouth, and when you have brought its mouth in contact with the feed, gradually withdraw your finger and the thing is done. It may be necessary to repeat this at the third time. The secret is that you must stand just far enough so that the calf can just reach the pail of feed, as the rope will then be taut; and hence he cannot reach you or butt over and spill his milk or feed. I have practiced this for a number of years, and have had no trouble to teach calves to drink.—*S. V. Van Fleet, Northumberland Co., Pa., in Co. Gent.*

FLOWER BEDS.

To cultivate flowering plants to the best advantage, requires as much care in the selection and preparation of the soil as any other crop. No one would expect to grow a crop of cabbages in soil overrun by the roots of trees and shaded continuously by their dense foliage; yet how often do we observe flowering plants placed in such circumstances, producing a few meagre flowers the early part of the season, perhaps, and dwindling and dying as soon as a few dry sunny days occur. Most summer flowering plants blossom on the points of branches, and therefore to produce a continuance of flowers, there must be a continued healthy and vigorous growth. It is true there are are some flowers adapted to shade, like the fuchsias, daisies, &c., and these should be selected for such positions. Heliotropes and some of the geraniums do well where there is sun only a few hours a day.

Select an open exposure where the sun will have free access to the plants, dig the ground very deep, and dress heavily with thoroughly decomposed manure, so that the roots may have some supporting resort when the surface moisture fails.

A small circular or oval bed ten or twelve feet in diameter, properly prepared and planted with flowers from pots, will produce a continued mass of flowers even in the driest summers. In arranging the plants, there is much latitude for taste, and very striking combinations may be secured.

Rose beds are much more beautiful and satisfactory, when only a few well known, hardy, and continued blooming kinds are employed, than when planted indiscriminately, with robust and tall-growing sorts crowding those of more delicate growth. In larger yards, where several beds can be made, there will be a better opportunity for a display of this kind of cultivated taste.—*Germantown Telegraph.*

Do Cattle Lose their Cuds?—I think they do not, but I know of a number of persons who, as soon as an ox or a cow is taken sick from any cause, (and of course the animals do not chew their cud while sick) make them a cud; some using codfish skin and sweet elder bark and yeast, another preparing a wad of hay in some mysterious way, another giving a piece of salt pork. Of course none of these things will hurt the animal. The question is, where do they get the first cud? It is certainly not made by the hand of man, and put into the calf's mouth; on the contrary, the little calf at three or four weeks old is seen chewing his cud.

In my opinion, when animals are taken sick, no matter what causes the sickness, they stop chewing their cud from the same reason that a person loses his appetite, but as soon as they are restored to health by letting nature have its course, or by assisting nature with some mild medicine, they get well, and their appetite returns and they will raise and chew their cud as before.—*Cor. Western Rural.*

AGRICULTURAL ITEMS.

—Big rocks or heaps of stumps look well when draped with grape-vines.

—R. W. Scott, of Kentucky, recently sold 100 long wooled sheep for $2000. They were to go to Utah.

—It is estimated that full one-third of the sheep in Weathersfield, Vt., that came to the barn last fall, have died during the winter.

— One of the reasons assigned for the fertility of soils under stone walls is, the gradual wasting away of the stone composing them, by the action of the elements.

—A man in Pennsylvania in preparing rhubarb stalks for market, threw the leaves to his pigs. The next morning five out of nine were dead, three appeared convalescent, and one looked doubtful. They exhibited every symptom of poison.

—The Indiana legislature has located the Agricultural College at or near Lafayette, Tippecanoe County. The legislature of Ohio after much debate and manœuvring during several past sessions, has just adjourned without agreeing upon a location for the proposed Agricultural College of that State.

—A correspondent of the *Prairie Farmer* says he has broken heps of the habit of eating eggs by keeping a setting hen upon the nest, and removing the eggs every night. His hens that got so bad that they would "go for" a nest in a flock as soon as they heard a cackle, were broken of the habit entirely by this means.

—When my bees were in box hives, says Mrs. Tupper, I never omitted looking on the bottom board of each one every morning, and destroying the worms. Every one left soon becomes a miller, capable of laying many eggs, that become worms very soon—every one destroyed puts an end to four possible generations in a single season. Destroy *every worm* in spring, and you can have no millers hatched in your hives that season.

—O. S. Murray, of Warren Co., Ohio, writes the *Countryman* that his experience and observation is against the use of any of the preparations for seed corn for planting—such as tar, sulphur, saltpetre, salt, or even warm or cold water. He wants corn kept on the cob as near as possible to the time of planting. Presupposing the selection of the best ears for seed—ears with grains covering both ends of the cob as perfectly as possible—he would plant all the grains from end to end of the ear.

—A correspondent of the *Rural New Yorker* believes that the English sparrow imported into New York city a few years since will prove a great pest to the farmer. In England, he says, from the time the wheat begins to fill in the ear till it is put into the barn or stack, every field must be guarded from early dawn till sundown, every day, by the bird-keeper with gun and rattle, or they would make awful havoc. At the time mentioned they assemble in the villages and cities very early in the morning, and go in flocks of thousands all over the adjacent country every day to do their destructive work.

—A correspondent of the *Rural World* who lives in a part of Missouri where little else than *woods* are seen, says: when we cut timber at any time of the year except July, August or September the process of seasoning is so very slow that the timber becomes infested with innumerable quantities of worms, and the smaller limbs will, in a few months, fall to the ground from natural decay. But, by cutting timber in July, August or September, the bodies of the trees season hard and are not troubled by the worms, whilst the smallest twigs remain sound at least three or four times as long as those of timber cut in the winter or spring.

—To make a rat and mouse proof house Mr. James M. Hartwell, of Colebrook, N. H., tells the New York Farmers' Club to take some mortar and bricks, and after the frame of the house is up and boarded and the partitions set, lay one or two thicknesses of brick between every stud, both on the lower and upper floors. Then lath and plaster to the floors, and put on a narrow mop or washboard, not so high as to have the upper edge come above the brick. As the rats and mice gnaw in, just over or under the washboards, bricks thus laid will make the house rat and mouse proof, at an expense of $5. Would it not also make the house damp?

—In reply to a question as to the comparative value of the ashes of different kinds of wood, J. A. Whitney of the New York Farmers' Club, said, of trees commonly used as fuel, none contain so much potash as the elm. Beech is rich in potassa, and so is walnut. Pine, on the other hand, contains so little that its ash is not worth saving. Oak has eight per cent. of potassa but a large amount of lime. Ashes vary in weight with the moisture they contain. If a bushel weighs twenty-five pounds, one buys in it from two to five pounds of carbonate of potassa, when the wood was hard. For agricultural uses oak wood ash is as good as any on account of the lime it contains; for potash, elm, beech, birch and maple should be chosen.

EXTRACTS AND REPLIES.

FROTH HOPPERS.

I have had it in reserve ever since last summer to write you concerning the new insect or bug that has done so much mischief in this and other portions of Vermont, during the past two or three years. It is believed by some that the quantity of hay grown on some fields was one-third less, to say nothing of the depreciation of quality, on account of the sapping of this insect. I have seen no notice of this new-comer either, in the columns of the FARMER or any other agricultural journal. The first appearance noticed is a little mass of white *froth* or *foam* near the bottom or centre of the grass stock. Imbedded in this foam will be found two small bugs (probably male and female), which for size and appearance have often been mistaken for young grass-hoppers.

The explanation of this phenomenon I believe to be this—the insect taps the stock and the juice is blown into these minute bubbles by the breath or exhalation from its body. I have watched them with some interest to determine if possible what *becomes* of them—whether they take "to themselves wings and fly away," or burrow in the ground, or what not. But the mystery is yet unsolved.

Although to *us* this proves to be "something new under the sun," an Entomologist who reads this may perhaps recognize an old and familiar acquaintance, and be able at once to assign them their proper name and place. E. K. BAXTER.

Sharon, Vt., 1869.

REMARKS.—There was something said in the papers last season in relation to this insect. If it is not the froth-hopper, or frog-hopper described in Harris' book on insects—and this has been denied by some—we do not know what it is. There are several species of this insect in New England. The annexed cut is of one of them. Like other insects they are more abundant some seasons than others. It is said that after alighting upon the grass, they perforate the stem with their beaks and take in such quantities of it that it oozes out of their bodies in the form of little bubbles which soon completely covers them up. Will Dr. Hartwell of Wilkinsonville, Mass., or some one familiar with natural history, reply more fully to the inquiries of Mr. Baxter.

CULTIVATION OF TOBACCO.

Will the editors or the correspondents of the FARMER inform me of the best way of raising tobacco? D.

Chittendon, Vt., May 10, 1869.

REMARKS.—The editors respond by saying that in their opinion the best way of cultivating tobacco is not to cultivate it at all. To raise tobacco in New England three things are necessary, a warm location, rich land and lots of the best manure. Have you all these in Chittenden? The farmers in the Connecticut Valley in the States of Massachusetts and Connecticut, considerably south and on lower land than yours, find the season barely sufficient for the maturity of the plant. Perhaps few branches of farming require more practical experience than this. In the first place the plants must be started in a hot-house or highly manured seed bed. These require much care and labor in weeding, &c. The manure is generally spread and ploughed in two or three weeks previous to the last ploughing, which is usually done just before setting the plants. The land is then harrowed,—some preferring flat culture, others hill up. The hills are prepared with the hoe, and phosphate, fish-guano, &c., applied in the hill, before setting the plants. Then come the cut worms, and after you have fought them to the death, and even before you have conquered them, the large green tobacco worm is found boring holes into your "Havana wrappers." The weeds and the worms will keep you busy. All other work must give place to this. Whatever other crop is neglected, the tobacco patch never is by cultivators. Then, two or three weeks before cutting, the "topping" and "suckering" is attended to. There is said to be a certain leaf which indicates where the top should be severed, but it is also said that much practice is required for its successful operation. Then the curing is another particular and nice performance, which requires skill and proper apparatus and shelter. But then all this comes after the manure, of which the largest pile of the best quality must always be secured. The Connecticut River tobacco raisers buy western corn by the carload, and cattle and sheep in the fall and feed them high to make their tobacco manure. And this must be done every year, as no beast will eat the tobacco; and if they did, what would the manure be worth? These farmers bought Maine oxen last fall in only fair order at eight and a half cents per pound, live weight, and last week some of the same oxen were sold at the same price at Brighton, after having been transported back and forth, and having been fed on meal all winter. But, then, profit or no profit on feeding, the spring crop of manure must be had or the fall crop of tobacco will certainly be missing.

JERSEYS IN RHODE ISLAND.

I frequently notice among the correspondents of your valuable paper mention of importers and breeders of Alderney and Jersey breeds of cattle, in Massachusetts and other States, but have never seen any mention of this State. Now, Mr. Editor, there are gentlemen on this island who import and breed some of the finest Alderneys and Jerseys that I ever saw in this country. Among them are Robert Maitland, Esq., who formerly owned *Comet*, the king of Jerseys, as he is called by Mr. Crozier, which name he certainly deserves. Daniel Fearing, Esq., has some beautiful animals that he imported last year. Col. George E. Waring has quite a number of pure stock. George F. Wilbur has some twelve or more pure bred, and Philip Caswell, Esq., some. Now, Mr. Editor, I certainly think that these gentlemen are entitled to some notice for the time and money expended by them in improving our breed of cattle. And I sincerely hope that some one who can write an article for your valuable paper will encourage them in a continuance of their noble endeavors.

A CONSTANT FARMER READER.

Newport, R. I., May 11, 1869.

REMARKS.—We are always glad to publish facts in relation to improved stock and improved farm management generally. We employ correspondents, ransack our exchanges, and do all in our power to collect these facts, and feel that breeders and farmers do not consult their own interest in relying on others to advertise the people of their operations. "The gods help those who help themselves," and if a man puts his light under a bushel or shuts it up in a stable, ought he to complain that his neighbors don't know that it is burning?

INQUIRY ABOUT DRAIN TILE.

In reply to an inquiry from a correspondent in West Gloucester, Mass., about the size, shape and cost of drain tile, we copy the following from "*French's Farm Drainage*," which is the best work on the subject yet published in this country.

"Drain tile, he says, are made of clay of almost any quality that will make bricks, moulded by a machine into tubes or into half-tube or horse-shoe forms, usually fourteen inches long before drying, and burnt in a furnace or kiln to be about as hard as what are called hard burnt bricks. They are usually moulded about half an inch in thickness, varying with the size and form of the tile. The sizes vary from one inch to six inches, and sometimes larger, in the diameter of the bore. The forms are also very various and this is one of the most essential matters, as effecting the efficiency, the cost and the durability of tile drainage."

The burnt tiles are about thirteen inches long. The two-inch sell at the factory for about $18 per thousand pieces, and larger sizes at an increased cost. It was recently stated that there are over fifty manufactories of drain tiles in New York, and there are several in New England. J. E. Edmond & Co., 394 Federal street, Boston, advertise both drain pipe and that glazed for sewerage and other purposes.

ONION SETS.

I should feel greater pleasure in replying to your correspondent, "E. R. C.," and another somebody without any name —— of Roxbury, Mass., if they had appended their names, yet I will answer their inquiries.

I generally grow several sorts of onions. When my black seed onions require thinning out in the bed the *second* time, I draw out those with the largest bulbs, about the size of horse beans, and lay them on the ground in rows to dry. They will enlarge considerably after being drawn. Let them lie till the tops are all quite dry and dead,—no matter if they have a shower of rain or two upon them, if turned over often to dry again. When quite dry I tie them up in small bunches by the tops, and hang them up where the sun can shine on them, taking care to stow them *out* of *frost's* way in winter. Soon as spring opens put them in rows about six inches apart each way, and we get early green onions, either to eat green as a salad or to use with "sage" for stuffing ducks to roast.

Potato onions I plant twelve inches apart each way, on not too rich soil, but that well pulverized. Rich soil makes the bulb grow to a larger size, but they rot and won't keep. Multiplyers and Shallots I plant on good soil. I find the Top or Tree onion to pay the best here, as they are a sure crop. I plant the large bulbs for raising the seed on good rich soil, and let the little bunches of small ones remain on the old stalk till it is quite dried and dead—then gather the tops, spread on a boarded floor to dry, and put away in open baskets or boxes with many holes or cracks to admit of plenty of air, till the next spring. Pull the bunches to pieces, and plant each little bulb *separately* about six inches apart in the rows; the rows being wide enough to admit of a hoe between them. These small onions bring good crops of large ones if kept clean from weeds and planted on good rich soil. I suppose the above is what your correspondents requires to know about onion sets.

JOHN WHATMORE.

Bridgnorth Farm,
Dunleith, Ill., April, 27, 1869.

PEACHES IN VERMONT.

I have a small place and am a great lover of fruit, especially peaches; but our latitude is just beyond the peach limits. Could we not succeed by training flat so as to cover as we do grapes? I have procured a few pits from Michigan of early varieties to try with, thinking that natural will do better than grafted trees. I am located about two and one half miles from the east shore of Lake Champlain. Apples, pears, cherries and plums do very well; peaches were productive here when the country was new. L. M. MACOMBER.

North Ferrisburg, Vt., 1869.

REMARKS.—For several years past peaches and peach trees have failed in most parts of New England where they once flourished. Many anticipate a return of former fruitfulness. More than twenty years ago we saw fine plates of peaches grown by the late S. Earl Howard and other gardeners in Burlington. The broad lake at that place, however, protects vegetation from early fall frosts, which we suppose it would not do at your distance from its shore. Branches of evergreens placed around peach or other tender trees serve to protect them in winter. The plan of growing them in pots or tubs which can be removed to the cellar in the winter has been considerably practiced, on a small scale.

SOFT SHELLED EGGS.

What is the cause of hens laying soft shelled eggs? Is it not abortion? I have frequently found them under their roost, but do not remember of ever finding them in a nest.

L. M. MACOMBER.

North Ferrisburg, Vt., 1869.

REMARKS.—This is no uncommon event in the poultry yard. The late Mr. Bement suggested that it might be caused by the hen hitting herself against the side of the building, or striking hard on the floor, in alighting from high roosts. Miss Biddy's ambition is never satisfied short of the top pole, and instead of coming down in the morning by degrees, as she went up the evening before, she takes a single leap, and often jars her basket severely in alighting; apparently forgetting how fat and clumsy she is.

KNEE-KNOCKING HORSES.

Can any of the readers of the FARMER tell how to shoe a knee-knocking horse so that he will go clear? Should the outside or the inside heel of the shoe be made the heavier? or should they be of the same weight, and the toe heavy or light? I believe a knee-knocker hits with the toe.

East Madison, Me., 1869. READER.

SHOEING DISEASED OR FAULTY HORSES.

As it is getting fashionable to crack down new things, it may be hardly safe for me to take two steps to the front from fear of being blown up, yet when the FARMER came here last week with inquiry about shoeing a knee-knocking horse so that he would go clear, I thought would I run the risk. I have had more than twenty years' experience in shoeing horses, including those with corns, quarter-cracks and bad limbs generally, in several of the Eastern and some of the Southern cities. I have also read the works of a number of authors upon horse-shoeing, and have conversed with a great many horsemen. And I would say to our friend "Reader" that horses must be shod according to their individual peculiarities, circumstances and condition—that scarcely any two should be treated alike. Hence no general rule can be laid down, nor any general directions given. But if "Reader" will give me a more definite description of his horse, whether of a nervous or sluggish temperament, whether light-limbed or clumsy, whether a foxy or logy traveller, I will give directions that will do no harm at least.

Please inform me where I can obtain a copy of an American edition of Youatt on the Horse, and at what price, and oblige a Haverhill, Mass. boy and A SHOEING SMITH.

East Rumford, Me., May 5, 1869.

REMARKS.—A. Williams & Co. advertise Youatt on the Horse, with notes and additions by Spooner and Randall, sent for $1.50, postage paid, on receipt of price.

RAISING COMMON POTATOES FROM SETS.

Though my experiment is not complete, I will give it as far as I have gone, in reply to an inquiry of "Subscriber" in a late number of the FARMER.

I made a cold frame about March 17th, into which I planted potatoes about two and a half inches apart and two inches deep, and let them remain until April 16. By that time they were up about one and a half inches high, and looked as well as any potatoes that I ever saw. Then I transplanted them into open ground. Some of the sprouts were planted with the seed on, others with the sprouts off, as an experiment. They have been set out about three weeks, and I think that a person could not tell which were planted with the seed on, and both both look very thrifty, and are almost ready to bloom. As to the yield I cannot say as yet, but will let you know when they are matured. They were planted on a southern slope on one of the Elizabeth Islands, in Buzzard's Bay. There has been no frost there since April 9. The potato is called the "Seven Weeks," from Prince Edward's Island. F. H. M.

New Bedford, Mass., May 8, 1869.

CASTING THE WITHERS.

To prevent the barbarous practice alluded to by Mr. Puffer, of Putney, Vt., I would say that by washing the protruding part with alum water it may generally be returned. It should be held in place until it begins to shrink, when the hand should be gently removed, and the cow rubbed on the back for a short time. I have never known this treatment to fail of effecting a cure.

Langdon, N. H., May 3, 1869. W. F. LOOMIS.

GROWING CELERY.

Seeing an article in the FARMER on growing celery, I beg to give my mode of growing it.

I put down two lines eighteen inches apart; and dig a trench about twenty inches deep, running north and south. Then put in a good layer of rotten barnyard manure, with a layer of fine soil; fork it over well; add more manure and more soil; mixed well together, till within about eight inches of the top. Trim off the top of plants with a sharp knife. Plant with a stick about ten or twelve inches apart. Cover over the trench with boards to keep off the sun till the plants have begun to grow and hold up their heads. In about nine days I hold up each plant with one hand gently, and with a little stick I scrape along on each side of the plants and put a very little soil to them; this I do about every other day till the plants are up above the trench. I go on in same way till it requires banking up with the spade. While in the trench I give the plants plenty of water. If treated in this manner a good long stick of white celery will be the result. JOHN WHATMORE.

Bridgnorth Farm, Dunleith, Ill., May 3, 1869.

CUTTING FEED.

In one of your Massachusetts papers, Mr. J. T. Ellsworth says, 'Cutting and mixing feed I have tried, but could not see that I gained enough to pay the extra labor." I have had a feed-cutter—"self-sharpening," Chicopee Falls, Mass., cost $17—for three years and think it has paid for itself every year, even on a small farm of seventy acres. My horse has had but little hay the past winter, having been fed mostly straw, and for three weeks nothing but straw, cut, with the same quantity of meal, corn and oats ground together, that I would have put upon cut hay, mixing the whole together with hot water, feeding when cool. The horse eats with relish and has gained in flesh throughout the winter. The cutting of corn-stalks and other coarse fodder for cows has also great advantages. They will eat it up clean, and keep in better condition on the same amount of food. The manure is finer, is more easily decomposed, and more easily worked. C. F. DEWEY.

Montpelier, Vt., April 26, 1869.

CUT TIMBER IN THE OLD OF THE MOON.

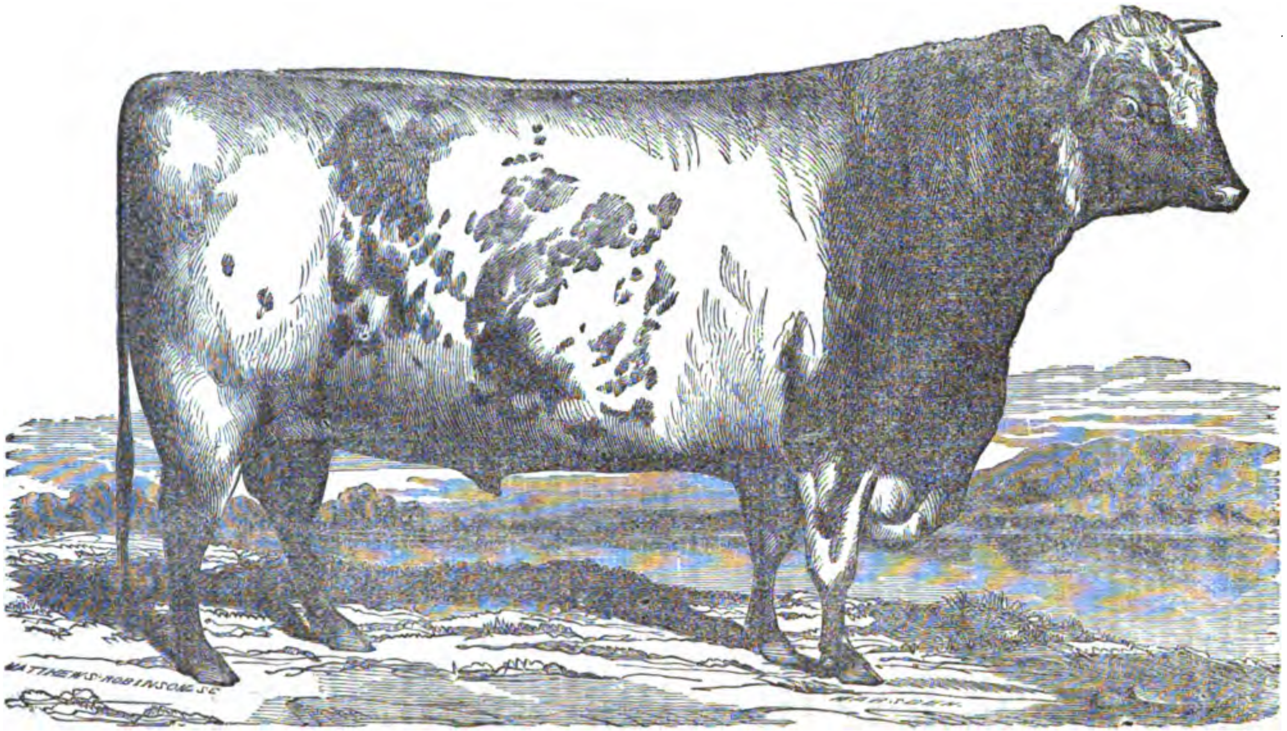
Though aware that it is customary with the learned editors of some papers to burlesque the idea of the moon having any influence on human affairs, I hope you will allow me to say to those who have been discussing the best season for cutting timber to last, that times and seasons are of little avail unless regard is had to the age of the moon. Timber cut in the last quarter of the moon will last twice as long as that cut in the first quarter. Sixteen cords of green wood cut in the last quarter is worth twenty cut in the first. This I have proved by experiments on various kinds of wood, continued through many years, and ask others to make like trials for their own satisfaction and benefit. HORACE FELCHER.

Bakersfield, Vt., 1869.

TO DESTROY DOCK.

I wish to give the readers of the FARMER my experience in destroying dock. In the spring of 1867, I tried the experiment on one-fourth of an acre, and in the spring of 1868, I tried the same on one and a quarter acres, from which I took about 2200 plants, and at haying time there were less than one dozen standing. My method is to cut the root about one or one and a half inches below the surface and carry them off from the field. I use a chisel or some implement about two inches wide, with a handle of sufficient length to enable the operator to stand erect while using it. I have no particular time for cutting. Any time will answer when they can be seen. ROYAL RINGE.

Wilbraham, Mass., April 25, 1869.



SHORT-HORN BULL "WINDSOR."

This bull, owned by A. J. Cass, Esq., of Holliston, Mass., is of a rich roan color, and has taken prizes wherever exhibited. His dam, "Windsor Lady," was one of the best milkers ever bred in New England. His pedigree, as recorded in Herd Book, vol. 7, is as follows:—"6301. Got by Monitor, 5019, (bred by Samuel Thorn,) out of Windsor Lady by 21 Hiawatha, 1660—Windsor Belle by Powhattan, 823—Red Romp by Agate 2—Romp by Enchanter (3729)—Rachel by Washington (1566)—Imported Pansy by Blaize 76—Primrose by Charles (127)—by Blythe Comet (85)—by Prince (521)—by Patriot (483.)

ESSAYS UPON FIELD HUSBANDRY.

We have before us a very interesting and quite an old book. The preface is dated at Killingworth, December 31, 1747. Probably Killingworth, Conn. The title runs thus:—

> "Essays upon Field Husbandry in New England. As it is or *may be* Ordered. By Jared Elliot, A. M. Eccles. v. 9.
>
> "Moreover, the profit of the earth, is for all; the King himself is served by the Field." Boston: Printed and sold by *Edes & Gill*, in Queen Street. 1760.

The preface opens by stating that there are sundry books written on Husbandry in England, but that the climate and method of management between them and us are so different, that these books are not very useful to us. So he thought that books of Husbandry calculated to conform more to the circumstances of our country might be of great service; not a history of our practice, not an account of what we do in our present Husbandry, *but* rather what we *might do*, to our advantage.

Mr. Elliot was a clergyman, and it appears that he had some doubts whether the suggestions he made would be favorably received by farmers, for he says—"It may be thought that a Subject of this Nature is not very suitable for one of my Calling. But, certainly," he adds, "the Cultivation of the Earth affords the most useful Philosophy, opens to us a glorious scene and discovery of the Wisdom and Power of the Creator and Governor of the World. It is what has employed Men of Rank and Orders, from the Prince to the Peasant."

Several expressions in the preface to the book, show that the same sort of prejudice existed against farming then, that we have now; that it "was not a genteel or profitable employment." So he encourages the reader to hope that good may flow from his Essays, by showing that useful knowledge has frequently come from a quarter where it was not natural to expect it, by stating that a monk first discovered gun-powder, and that the useful art of printing was the invention of a soldier. He adds, that it is acknowledged by our best writers, that while other parts of learning, less useful, have been cultivated, agriculture has been strangely neglected. "Some suppose the Reason of this Neglect is, that the Subject is too low for Polite Writers. It was not so accounted by King Solomon. He did not think it below his Dignity as a King, nor inconsistent with his Character as a Preacher."

He continues, and we think with truth and force, —"I rather think Husbandry has been neglected as being too high; That is, Writers do not care to be at the trouble of Projecting, nor at the charge of Trials and Experiments upon what hath been Projected: It being a great deal easier to write a Book upon the known Arts and Sciences that shall be accepted and applauded, than to write upon Husbandry so as not to be despised: for some think we do not need it, and that we know all that can be known already."

This idea—that so many think they know enough already—has been one of the most stubborn things in the way of progress in agriculture. It is just so with the sinner. He who thinks he is good enough already, will make no effort toward reformation. It is our duty to live in better houses, to have smooth roads, safe bridges and labor-saving implements and machines to work with, as well as to be moral and just in all our dealings. Whatever tends to honest gain and a higher civilization, is a duty; an imperative one. The parable of the "talents" shows this. We are not only to subdue the earth and make it prolific, but also to make it beautiful; and this beauty will have a reflex influence and make our own lives beautiful. Mr. Elliot hoped that if any one thought him mistaken, they would try their hand upon a few acres themselves, or their heads in persuading people that there was still something left to be learned in agriculture.

No one will doubt that in Mr. Elliot's time—one hundred and forty-two years ago—there was great need of improvement in the modes of locomotion. Not only need of better roads, but of better appliances on them. Of quicker, cheaper and safer means of transferring persons and property from one point to another. No one doubted that; but hundreds seemed to believe that the houses in which they lived were good enough, and so were their crops and animals, and means of education. Happily, the darkness which obscured their minds has been dissipated by the efforts of an Elliot and his followers, so that the "talents" with which we have been entrusted are put to usury, and we are in the way of hearing the grateful words, that we have been faithful over a few things, and shall be made rulers over many.

We propose, hereafter, to notice some of the suggestions made by Mr. Elliot, and show the progress made by those who have succeeded him.

AYRSHIRE AND DURHAM COWS.

The *Vermont Journal and Watchman* says that four gentlemen in Milton, owners of thoroughbred Ayrshire cows, have challenged J. A. Shedd, Esq., of Burlington, a breeder of Durhams, to put four of each on a farm together through the month of June, and "at the end of the time, we will weigh the cows, and if the milk produced by your Durhams shall outweigh the milk produced by our Ayrshires, in proportion to the weight of the cows, we will pay the sum of five hundred dollars premium, provided that if the milk produced by our Ayrshires shall outweigh the milk produced by your Durhams, in proportion to the weight of the cows, you will pay us the sum of five hundred dollars premium."

In connection with the above we copy from the *Country Gentleman* the statement that the Inverness, Scotland, Farmers' Society lately discussed the relative importance of these two breeds, "in a national point of view," granting the Durhams to be best for fattening, and the Ayrshires as milkers. In conclusion, the chairman summed up by stating "that the number of members who had spoken on each side was equal. Both were doubtless right, for milk and beef were alike necessary, and he would say that Short-horns should be kept for feeding, and Ayrshires for dairy purposes. He regarded the Short-horns as most important in a national view. Though they were not as good milkers as the Ayrshires, they would give a sufficient quantity of milk to support their calves and a little besides. Some of them, indeed, would only keep up their calves, and no more, while others were nearly as good as Ayrshires."

NEW PUBLICATIONS.

Parsons on the Rose. A Treatise on the Propagation, Culture, and History of the Rose. By Samuel B. Parsons. New and Revised Edition. Illustrated. New York: Orange Judd & Co., 1869. Boston: A. Williams & Co. 215 pages. Price $1.50.

This is a revision and enlargement of a work published over twenty years ago. The varieties are classified and described, with directions for cultivation, grafting, budding, &c; operations which are illustrated by excellent cuts. In addition to his home experience the author adds the information derived from a personal inspection of French and English nurseries. The history of the rose and of its uses in ancient and modern times is enlivened by many interesting anecdotes. As evidence of the increasing attention given to the rose, it is stated that in 1762 Linnæus was acquainted with only fourteen species, while in 1832 two hundred and five were enumerated, to which considerable additions have since been made by discoveries in the Himalaya Mountains and elsewhere.

For the New England Farmer.

FARM IMPROVEMENTS.—HOW AND WHAT.

I should like to know how "R. N.," of Randolph, Vt., got his farm in so high a state of cultivation, and what he could find to sell to the amount of $500 from a farm of fifty acres. A farmer here is doing well if he turns off $500 from a farm of one hundred acres, and some do not reach that amount from twice that number of acres. Old winter has come back in earnest. About four inches of snow fell last night. K. S. D.

Williamstown, Vt., May 3, 1869.

Remarks.—The above inquiry was submitted by the Editors of the Farmer to "R. N." himself, who has kindly responded as follows:—

The inquiries of "K. S. D.," as to "how 'R. N.' got his farm in so high a state of cultivation, and what he could find to sell off from a farm of fifty acres to the amount of $500," open a wider field for discussion than I feel at liberty to engage in just now, however much I desire to.

In brief, then, I reply—by the practice of so much *common sense* as Providence blessed me with, (which, by the way, is not enough to brag of!) and selling the effects! just as every other man can and ought to do.

If farmers will persist in fettering their intellects, reason, common sense, as they do by practically ignoring the means of agricultural grace that I mentioned in the article alluded to, i. e., farmers' papers, discussions and fairs—they certainly ought not to wonder or complain if they don't find their farming "pay." As well might a man complain of being hungry after having purposely plugged up his ears so as to be unable to hear the dinner bell!

Farming is a *profession*, requiring not less study, investigation, thought and practice, in order to success, than other professions; instead of being as is apparently often supposed, an *instinct*, requiring only age, or a certain *time*, for perfect development.

As to the "high state of cultivation" of my twenty-three-acre farm, I do not claim or think it is *really* in that state; it is only *comparatively* so, *i. e.* in a better condition than it used to be, and perhaps than those adjoining it; for I do not believe it yet produces *one-half* what it ought to, or what it will within five years, if I don't "sell out and go West," as my health and mechanical business demand. What improvement I have made has been by studying and practicing the farmer's *profession* in regard to making, saving and applying plant food or manure—rotation of crops, and the time, manner and implements for the sowing, planting, cultivating, harvesting, feeding or marketing them—the kinds, breeds, and relative numbers of farm stock, and science of breeding them, and best manner of feeding, using or selling them, &c., &c.,—as best I could, with several other kinds of business to see to, feeble health, and six children to "train up in the way they should go."

To be a little more explicit. Every foot of my farm is excellent, arable land, a slate, loamy lime soil, with a little blue clay occasionally; easily worked, lying high above all large streams, and not often injuriously affected by rain, drought or frost; nearly level, descending slightly to the east, and free from stones, stumps or other obstructions to mowers, rakes or ploughs,—it being a standing *order* that every stone or snag that the plough hits, *must* be dug out and carted off. Every stone, big enough to throw at a skunk, is picked and drawn off from each new seeded field before rolling it.

The rotation is corn, pumpkins, potatoes and turnips, on green sward turned just before planting, with raw manure cultivated in, and a shovelful of decomposed manure in the hill one year; wheat, with fifteen to twenty-one bushels unleached ashes to the acre, one year; and clover and timothy four to eight years. Product per acre, last year, early cut, *extra* hay 3800 pounds; sound corn, 85 bushels; pumpkins, ten one-horse loads; potatoes, 300 bushels; turnips, 500 bushels.

The stock wintered the past season is two large, blooded, breeding mares; one fifteen hands high, stud colt; four Ayrshire cows; two large two-year-old heifers and five yearlings—fully equal to thirteen cows, besides poultry. Dried dirt, India wheat hulls, sawdust, leaves and refuse straw is plentifully used for bedding in stables where the excrements don't freeze in the coldest weather.

Our house being commodious and near the Normal School, we rent some rooms, not needed by our family of eight, to self-boarding scholars, to the amount of $150 to $225 a year.

Now as partially answering K. S. D.'s last query, I will mention that the hay, corn, pasturing of three acres and fall feed, oats, India wheat, English wheat, barley, apples, potatoes, turnips, corn fodder and straw, pumpkins, garden sauce, berries, &c., which we have raised the last season would have sold at market prices for ($1001.47) ten hundred and one dollars forty-seven cents, and the stock, butter, eggs, milk, and poultry sold, and $150 student's rent, amounts to ($950.00) nine hundred and fifty dollars,—leaving the stock worth more than it was a year ago.

I have found that *good stock, careful and rational feeding, comfortable* quarters, *pay* better than the *reverse!* Herd-book calves, *e. g.*, at three days old, readily sell for twenty-five to one hundred times more than "scrubs," or no breed. A four-year-old heifer has just dropped her third calf. Her two former calves brought me $161.00! One cow has made over ten pounds best butter per week, for three and a half months past; and my mares average me about $100, each, per year, by selling their colts at weaning time, besides working on the farm, road and tread-wheel, full enough to pay for their keeping, &c. *Good* butter, too, not only sells for a higher price, but is always in demand.

I have also *discovered* that whenever any man has anything to sell, it is a good plan to let it be *known!!* Raise extra good stock, and then take it to the Fairs, and show it;—so also of all farm produce—and there will be found no lack of customers.

Cut not less than two tons of extra good hay per acre, and cut it early, before timothy is in blossom, when it takes less *power* to cut it and it makes *better* hay. Keep it well aired with the "American Hay Tedder," (which will save the labor of eight or ten hands); rake it with "Warner's Revolving, Sulky Rake," and put it into the barn, in the best of order, the same day it is cut. Use only the *best* of all farm implements; raise the best of all farm products, and then sell them for the highest prices. Keep well posted as to *market prices*, not only at the East, but as the Western prices affect the Eastern, know also the Western. Have the best fan-mill and separator and prepare your best wheat, oats, &c., for *seed*, and sell it for 25 to 50 per cent. extra price.

As my sheet is full, I will only add that my buildings and yards occupy the twenty-third acre, so that the crops are from only twenty-two acres;—that half the labor of one man and a horse will easily do all the work, if well *bossed*,—(I have hired it all done two seasons for $70 each, the man finding team and tools)—and that if K. S. D. or any other man, wants more particulars, I shall be happy to receive a call from him, and will do him all the good I can, and get all from him possible!

R. NUTTING.

Randolph, Vt., May 17, 1869.

For the New England Farmer.

CURING GRASS, OR DRYING HAY.

The idea has become somewhat prevalent that grass after being cut can be dried so much in the sun as to injure its nutritive value. Some claim that drying darkens its color, breaks off the leaves and turns the stock to wood, and the better way would be to partially dry the grass, store it in the barn and put on salt and lime for a preservative. This may be true; still, it is usually safe to examine the reasons or causes of results, especially if such results are contrary to our ordinary observation. I believe that the quicker and more completely grass is dried the better, and that the sun has no damaging effect upon it.

In the summer of 1868, I took a handful of clover, which is the most difficult of all grasses to cure, and hung it in the sun during the day on a post by the side of the house, and at night removed it so that no dew could fall upon it. After several days its color in blossom and leaf was quite fresh and green, and on chewing leaf or stalk there was the same taste as in freshly plucked clover. The sun did not injure this sample.

Then if we consider the ingredients of grass, as given in an article in Hall's *Journal of Chemistry*,—gluten, sugar and starch—are any of these substances injured by drying? In making maple sugar in warm days in spring the sap and syrup speedily sour if exposed to the air, and the sugar is better if the evaporation of the water is effected quickly. In making vinegar from maple sap or cider, the process is accelerated by its exposure to the air in small quantities, as by filtering through a barrel of shavings. So in wilted grass, the diluted sugar is not only liable to sour, but does sour, when laying through a warm night saturated with dew.

If we take the constituents of grass as they exist, in a more concentrated form, in corn, wheat or barley, and pack them in a partially dried state, as hay is often packed, and allow them to ferment and steam as hay is allowed to do, the gluten, starch and sugar are speedily so changed as to spoil the grain for food. If the housekeeper uses meal from such damaged grain, she may prepare it for food, but those who partake of it will detect the "mould," or whatever we may call the results of the fermentation. So hay that ferments in the mow till it gives off a sour odor, and afterwards becomes dry, reveals doubless a similar sour mustiness during the process of mastication. As heated and musty grain is not as healthy or nutritious as that kept dry and sweet, we conclude that the same is true of soured and heated hay.

If I could have my hay made and put into the barn in a perfectly satisfactory manner, I should desire a good hay day, in which the dew would dry off early in the morning, and before it was entirely gone, say half-past seven o'clock, I would start the mowing machine and cut an acre an hour till noon; then start the hay tedder so as to stir all the grass cut once before noon; then after dinner, if it seemed desirable, stir with the hay tedder again, but begin to rake with the horse rake before the grass is dry enough to break badly; bearing in mind that the stirring, raking and tumbling should be done *while* the hay is drying and not after it is so dry that the leaves and heads will break off and be lost. At about three or four o'clock, the hay that yields from one to two tons per acre of timothy, red top and clover will be dry in the hot sun and ready to cart, and a smart gang of hands will, if the barns are conveniently and centrally situated, put the hay under cover. That hay, if dry, will come out in the winter in good shape.

In a poor hay day, I would mow, shake and rake the same, getting all the moisture out possible, and if it was half dried and the weather seemed likely to be unfavorable, I would get it in, preferring to risk the damage in the mow rather than the effects of wetting.

The effect of a shower is very bad; much of the nutriment in grass being very soluble, as is shown by the manner stockmen raise calves occasionally. Put a handful of hay into a pail and pour boiling water upon it; the water soon turns of a dark color and is quite a nourishing drink for calves, and takes the place of milk. Thus a shower of rain in a warm day upon hay must wash out much of the soluble matter, and the soluble part is nutritious. The dew does not wash the hay, but dilutes the sugar so that it is likely to turn to vinegar. Dew, however, does not injure hay until it is wilted. When it wilts it is dead, and unless dried, decomposition commences. If it is necessary to leave in the field partially dried hay free from water, it keeps better in cocks covered with hay caps.

The Fragrance of Hay.

Some contend that the fragrance or aroma of hay is a valuable quality, and that as thorough drying in the sun is supposed to destroy the aroma, therefore it is a damage.

Whether there is any valuable nutritious quality in the aroma can only be proved by such delicate chemical tests as can analyze a vapor. But, when we consider how little fragrance has to do with human food we cannot suppose cattle more discriminating than man is. There are odors offensive to man and beast. Such odors accompany the decomposition and putrefaction of animal and vegetable matter and show that they are not fit for food. The most nutritious food is almost without odor, as flaxseed, all grains, whether whole or pulverized, starch, sugar, salt, &c., and the odors of food are often added by fragrant herbs and spices, which often render food unhealthy and repulsive to those not accustomed to them. It is evident that we naturally desire food without odor, and that it satisfies our appetites, day after day, without causing us feelings of aversion. It is so with the cattle. No odor is so offensive to them as that accompanying the decomposition of hay not sufficiently dried in the making.

Mr. J. B. Fassett, of this town, once cut a lot of grass by the job. One afternoon a quantity was only well wilted when it was time to cock it, either to remain in the field or to be put in the barn. The owner said "get it in." It settled very much in the mow, and some of it was sold to the owner of one cow, that soon became sick, and only recovered when fed again on good hay.

In regard to the efficacy of salt and lime as preservatives of starch, gluten, sugar and woody fibre, there are erroneous ideas. These are all simple substances that keep forever if dry.

Tons of potato starch are made in northern Vermont, and in its manufacture the desire is to dry it as quickly and thoroughly as possible, and no salt or lime is used to preserve it. Tons of sugar are made, and that which is perfectly dry and stirred off so that it can be carried in barrels or bags is the most valuable. But whether dry or damp, neither salt nor lime are used to preserve it. The concentration that results from a perfect evaporation of water is all that is necessary, and that evaporation should be rapid.

In regard to woody fibre, I am told by mechanics that wood is best when sawed into boards and dried quickly, and never re-wet; a statement that was recently corroborated by Mr. W. Bacon in a communication in the Farmer on preserving timber. A pile of wet boards, closely packed, will mould and spoil in a few weeks in summer. Therefore it is safe to say that grass, which embraces all these substances, should be thoroughly dried. And as an evidence of the incorrectness of the saying that the goodness of grass can be all dried out of it, I may refer also to other articles of merchandise that are preserved by drying and still retain their strength, such as hops, tea, medicinal herbs, pepper and all kinds of spices.

The sun has no power to destroy vegetable matter, but is still a safe and reliable assistant to the hay-maker, and we venture to repeat the old proverb—"Make hay while the sun shines." Z. E. J.

Irasburg, Vt., 1869.

For the New England Farmer.

EMPLOYERS AND EMPLOYEES.

Among the many important subjects to be discussed and understood, there is none of more importance than the relation between employers and employees. This is a relation that must exist in all kinds of business as now carried on; there must be, of necessity, employers and the employed; and the two must be brought together in mutual and reciprocal relations; and there must be action and reaction that will be profitable or unprofitable, advantageous or the reverse, just as these mutual and reciprocal relations are pleasant or unpleasant.

And in the first place, in order that the relation may be profitable and beneficial to each, there must be a mutual interest between the employer and the employees. If the employer manifests no interest in the welfare and good of his employees, other than he would in his horse, cow, or ox, only to keep and use for what they will pay in return, then at once the man is placed on the level with the domestic animals; his manhood is ignored, and he passes for so much bone and muscle; and the only question asked by the employer is "What is the largest amount of profit I can realize from the use of those that I employ?" And sometimes this is too manifest, not only by the employer, but by the whole family, in doors and out. Even the food set before the workmen is of the poorest kind, and often scant in quantity; anything, with such, is good enough for workmen, forgetting that those that labor must have the necessary *food* or *fuel* to keep up the steam. For unless the fire is kept burning, the power must run low; and every person thus shabbily treated feels it to the ends of his fingers, and it is not possible but that it should operate upon the amount of labor or service performed; there can be no good-will or heartiness in it; it must be only mechanical and listless, eking out the time.

Again, the kindness, gentleness and sympathy, which the employer manifests towards those in his service, will ever do much to win their confidence and affection. A kind word is never lost, and an occasional word of commendation acts like a cordial to stimulate and excite to the accomplishment of still more worthy deeds. And little acts of kindness, and a manifest interest in ones welfare and good, go directly to the heart, and kindle in return a deep and heartfelt interest in all the affairs and general welfare of the kind employer. These things will ever be reciprocal, and such kindness and sympathy are never lost, but reap a rich and ample reward; while, on the other hand, coldness, indifference, frowns, harsh words, fretfulness and impatience, manifested towards those employed will ever be sure to recoil with increased power upon the employer; for these send a chill into the soul; they dry up all sources and springs of affection and sympathy, and soon destroy all confidence and respect. No man can long respect and love, whatever the relations sustained, one from whom he receives no word of kindness, no manifestations of interest or sympathy, but sees only frowns and hears only words of reproach or impatience. Mind will act upon mind, heart upon *heart;* they will be drawn together, or they will be repelled, just as there is a marked sympathy, or the opposite. It is upon this principle that the old adage will ever prove true that "molasses will catch more flies than vinegar." Many are blind, very blind to their own interest and good, in the way and manner they approach and deal with those in their service.

Again, there is often manifested by some employers a certain kind of superciliousness or superiority, as though the mere relation of employer and employee advanced the one and depressed the other; while it may be far the reverse. A man may find it for his interest to engage in his service one that is far his superior in talent, in social standing, or in power and general influence. But engaging in the service of another, does not in the least change or affect that superiority. A man by engaging in the service of another does not sell himself nor his talents, his social standing nor his power or influence; he only engages to employ his talents and labor, intellectual or physical, for the good of his employer for a certain sum and certain time; and the employer has no right on account of this to affect or assume any superiority. He has only the right to ask and expect the service he engaged, and to treat with kindness and respect his employee.

Again, it often occurs that a person is employed for some special service, for which that person is expected to have a special preparation; in such cases that person may be expected to know more than his employer, and it may be greatly for the interest of the employer to consult with his employee and listen to his advice and counsel. And not only in such special service, but if those employed are intelligent and observing and feel an interest in their business they often have ideas, thoughts and suggestions, which may be of great benefit to their employers if they will only receive them. And the listening to and receiving such thoughts and suggestions exert a good and happy influence upon those suggesting them; it makes them feel that their employers have confidence in and respect for them. And here is another true maxim or adage: "If we wish to be trusted we must trust; and if we wish others to confide in us we must confide in them." A jealous, suspicious person, always suspecting every one, and trusting none, will make everybody jealous and suspicious of him. We make others toward us what we ourselves are toward them.

Again, it is for the interest of every employer to engage in his service the best he can find and then pay them a good price, so that the employee shall have no just or reasonable ground of complaint that his pay is not sufficient to meet his actual necessary wants for support; because if a man is pressed down to the very lowest point of support, and must strain himself to the utmost to pay necessary bills, there is set before him at once the strongest possible temptation to be dishonest with his employers.

Every man has a right to ask and to receive a fair and liberal compensation for his services according to the relative and comparative value of the service rendered; and it is not for the interest of the employer to try to sponge out of any body labor for less than a fair price.

Hundreds of boys and clerks, and sewing-girls and others, depending upon their meagre salaries and pay for a living, in our cities and larger towns, are rendered dishonest and vicious by the wicked, grasping, starving policy of those who employ them. Boys and girls, men and women, must eat and drink, must have clothes to wear, and some place called home to have shelter, rest and sleep; and means must be provided somehow to furnish these; every employer has an interest in the welfare of those he employs and should see that they are not actually suffering or driven to extremities. If persons are honest, temperate and virtuous, they have a just and reasonable claim upon their employers for such pay, if there is no physical disability, as will afford the necessities of life.

Again, when one engages in the service of another, he does not thereby sacrifice his independence or any rights or privileges, civil or political. His employer has no right to dictate for whom he shall cast his vote or to interfere in any way with his rights as a citizen. The employee has all the rights and privileges as a citizen of his employers.

We are confident that very many complain of their employees when their own treatment, and manner, and indifference, have made them to be what they are. It is too true that there are both bad employers and bad employees; yet generally, good and kind employers make good employees. E. G.

Needham, Mass., 1869.

—The Vermont *Journal and Watchman* says that Cassius Buck, of Fairfax, had a cow that did not seem to do well; he gave her medicine and she "heaved" up, not *Jonah*, but a lizard which measured 14 inches in length, and about 1½ inches thick.

DISSOLVING BONES.—FERTILIZERS.

The frequent inquiries that are made by farmers upon these subjects indicate an interest in the matter which will make the following articles from Dr. Nichols' *Journal of Chemistry* acceptable to a large part of our readers. The *Boston Journal of Chemistry* is a monthly publication at fifty cents a year.

Erroneous Views.

In some remarks made by Col. Daniel Needham, in the Massachusetts Senate, upon the bill relating to the sale of commercial fertilizers, which was presented as something new and valuable, he is reported as making the following statements:—

> "He said that a most valuable fertilizer could be made by taking four barrels of ground bone, one carboy of sulphuric acid, and two barrels of ashes. He said that the expense of this fertilizer would be only about eighteen dollars a ton, and that he did not doubt the fertilizer thus made would be as valuable as any purchased in the market for forty dollars per ton. He stated the expense substantially as follows:—

4 barrels bone, at $2 50 per barrel, ...	$10.00
175 pounds sulphuric acid, ...	5 25
2 barrels ashes, ...	2.50
	$17.75

> "The process of mixing, he said, was very simple. He would take the ground bone, and, after wetting it thoroughly, allow it to heat, which it would do in a short time; then pour on the sulphuric acid, and afterwards mix with the mass two barrels of ashes."

Quite a number of correspondents have inclosed to us slips cut from newspapers containing the formula, with requests for an expression of opinion in the *Journal* respecting its value. As regards this matter it may be said in brief, that we have a very high opinion of the substances employed, but a very poor opinion of the chemistry involved in making up the mixture. It is proposed to do first simply what we have so often recommended farmers to do,—make their own superphosphate, by acting upon ground bones with sulphuric acid. But that also is proposed, which we have never recommended,—viz., add ashes to the mixture, and thus greatly retard or injure the fertilizing influence of both the superphosphate and the ashes.

Ashes contain much caustic potash and soda, and these would be instantly seized upon by the free phosphoric acid in the dissolved bone, and locked up in new combinations,—phosphate of potash and soda. Thus several agents, of high fertilizing value as they exist in the bone mixture and naturally in the ashes, would be placed in a form not so readily and perfectly assimilable by plants.

The mixture is quite unscientific and unnecessary, and farmers had better keep ashes out of their superphospate; for as chemists say, it is incompatible. Adding ashes to fine bone, moistened with water, as we have recommended, gives quite different results. The caustic alkalies act upon the gelatine or the animal portion of the bone, and become in part saponified; and by abstracting or appropriating this portion of the bony structure, the atoms of phosphate of lime are liberated and made ready for plant food. The soapy, alkaline portion goes to form a healthy, robust stalk; the phosphoric acid and lime gives full, plump seeds.

It may be further remarked, regarding the fertilizer spoken of above, that the prices affixed to the substances are as far from being correct as the formula. The cost of the mixture would be nearly double the price stated.

Dissolving Bones.

We suppose as acceptable and useful service can be done our agricultural readers in pointing out the errors into which they are liable to fall, and warning them against the expensive and profitless experiments they may be led to undertake, as in stating new facts, or calling attention to new and important discoveries. They are constantly liable to be misled by the statements made at farmers' club meetings and through the journals professedly devoted to their interests. We have recently read, in one of the most widely circulated of our agricultural papers, an editorial article upon dissolving bones in sulphuric acid, in which farmers are advised to collect large quantities of bones, reduce them to fragments by pounding, and then dissolve them by pouring on the acid. Also the same wise advice was given by several speakers, at a recent meeting of the New York Farmers' Club. Now, this is all wrong. Farmers should not be advised to treat bones in this way, as it will certainly end in disappointment and pecuniary loss. Raw bones pounded into fragments cannot be fully and expeditiously dissolved in acid; and whoever recommends the process has never tried the experiment, or if he has, he purposely misleads. Fragments of bones no larger than a hazel-nut may remain in strong or dilute acid for months, and may not be perceptibly acted upon. A bit of bone, when brought in contact with sulphuric acid or oil of vitriol, is immediately attacked by it upon the *surface*, and the action goes on but a little while before a film or coating of *insoluble* gypsum or sulphate of lime forms upon the surface, and this *prevents farther action*. In order to dissolve bony structures and fit them for plant food, *they must first be ground to fine powder and the finer the better*, as the acid can then cut through the little atoms, and disintegrate them entirely. Coarse pounded bones should never be placed in contact with acid with the idea of dissolving them; they will not dissolve. Strong potash lye will dissolve whole bones, and therefore they may be packed in ashes under certain conditions, with good results. If a farmer has a quantity of bones on his premises which cannot conveniently be ground, it is better to burn them to whiteness, and in this condition they can be ground in a common stone mill; and the powder when acted upon by acid forms most excellent true superphosphate of lime, useful for almost all kinds of crops.

AGRICULTURAL ITEMS.

—A man in Syracuse, N. Y., has noticed that common currants standing close to black currant bushes were not meddled with by the worms which destroyed them in other parts of his garden.

—Messrs. Isaac Hicks & Son, Old Westbury, L. I., raised last year, nine rows of as many different varieties of potatoes, side by side, with the following result:—Early Goodrich, 188 bushels per acre; Early Samaritan, 96; Early Rose, 235; Harrison, 265; Calico, 267; Gleason, 254; Vanderveer, 227; Gardner, 215; Peach Blow, 196.

—A correspondent of the *Rural New Yorker*, after alluding to the difficulty of administering medicine to horses in the usual way, says he now holds up the horse's head and puts the neck of the bottle into one of his nostrils as far as he can, and the liquid will run down the horse's throat, without swallowing or effort, and without wasting a drop.

—It appears from the monthly statement of the Treasury Department that of the 65,972 immigrants who arrived in this country during the quarter ending September 30, 1868, 4615 were farmers, 11,769 laborers, 4686 mechanics, 2940 merchants, 1036 miners, 365 professional callings, 1612 servants, other occupations 940, without occupation 38,009.

—By the Monthly Report of the Treasury Department it appears that for the nine months ending September 30, 1868, the imports of raw and fleece wool amounted to 19,354,356 pounds; and for the same period in 1867 it was 27,030,029; valued at $3,010,967 in 1868, and $4,480,123 in 1867. Making the cost of the wool thus imported during nine months of 1868, 15½c per pound.

—Mr. J. J. Parker of West Chester, Pa., who is engaged in the coal and brick business, has imported from France a Percheron stallion for the improvement of draft horses in that section. This horse is five years old, over seventeen hands high, weighs 1630 pounds, and is of a dapple gray. His size and weight do not prevent him from having in his motions all the lightness and grace of the Arabian horse, while his disposition is exceedingly kind and tractable.

—In a late article on the "Deterioration of the Farming Interest in New England," written for the *Country Gentleman* by Levi Bartlett, of Warner, N. H., it is said that "in most of the hill towns the rural population have largely decreased within the past twenty-five years; and during the same period many hundreds of what were once considered good and productive farms have been abandoned, the buildings removed and most of the lands thrown out to pasture, large portions of which will eventually be covered with a forest growth."

1776.

Farmer at the plough,
Wife milking cow,
Daughter spinning yarn,
Son thrashing in the barn—
All happy to a charm.

1869.

Farmer gone to see the show,
Daughter at the piano,
Madame gaily dressed in satin,
All the boys learning Latin,
With big mortgage on the farm.

—At a cattle fair or market held at Guelph, Can., recently superior beef cattle were sold at 4½ to 4¾c per pound live weight; milch cows $25 to $40 each; 36 cattle at $48 per head. At Mount Forest Fair, Can., oxen were sold at $70 to $90 per pair; steers $40 to $55; cows $16 to $25; heifers $10 to $14, each. A Hamilton correspondent of the *Canada Farmer* says the American demand was brisk lately for milch cows, but this has slacked off somewhat, and he is assured that cows that two months ago would have brought readily $35, will not now bring more than $28 or $30.

—Alfred Young, Trumbull County, writes to the *Ohio Farmer* that he has had some experience in feeding corn boiled on the cob to cows, which was very unsatisfactory for the reason that much of it was undigested and went into the manure heap where the rats burrowed and got a good living at the expense of the cows, and the crows would scratch over the droppings and pick out the corn in the field. Since he has adopted the plan of grinding corn and cooking the meal, the rats have left for parts unknown to him and his cows do much better on less feed.

—The editor of the *Germantown Telegraph* says: "There is no mode that we ever tried so effectual in transplanting tomato, cabbage, cantaloupe, or any other tender plants, from the hotbed, or from one place to another, as to prepare a vessel filled with manure-water and rich soil, about the consistency of thin mush, with which the roots of the plants should be well-coated and set in a hole made with a sharp, round piece of wood or dibble. After being rather firmly planted, moisten again with manure-water. We have never failed in any transplanting when done in this way, and the trouble is very slight."

—During a discussion about gapes in chickens, by the New York Farmers' Club, Dr. W. E. Sanger said that he had been successful in applying a very little nitrate of silver, lunar caustic, to the inside of the throat. J. B. Lyman thought that many would be afraid to use so powerful a remedy, and recommended mixing pepper and sweet oil or melted butter and swabbing their throats with a small slender feather about five inches long, the plume stripped off on one side. J. E. Thompson preferred prevention to cure. As soon as the hen is off put her and her family on soft fresh earth, and give them cooked food, if meal is used; preferred wheat screenings.

—On reporting the discussion at the last meeting for the season of the Waltham, Mass., Farmers' Club, the *Sentinel* remarks, "the meetings of the season have been uniformly well attended, and have fully kept up the interest of past years. Full arrangements for places and subjects for the next season have been made, and in all respects the Club was never more prosperous. Several of our young farmers have joined the Club the past season, and by their presence and words have added to its interest. This is a good sign. Our young men too often look to the overflowing city, when the broad acres of their fathers would yield them a competence with less of labor and anxiety.

—The New York Farmers' Club in answer to an inquiry says: "There are now five English steam ploughs running in this country—one in Kentucky, one in Texas, and three in Louisiana. They cost about $15,000, and give great satisfaction, as they do the work of twenty or thirty horses, with the labor of two or three attendants. In England there are 2000 of these ploughs, and in Egypt 400. They run a gang of from three to six ploughs, and pulverize as deep as fourteen inches. They can go much deeper if the farmer wishes. Two or three inventors are working out the Yankee steam plough. One proposes to build, for about $3000, an engine that will move back and forth on the line of a wire rope fastened at the headlands to a self-advancing anchor."

—A. C. Thomas, of Wisconsin, says in the *Western Rural*, that, "If you wish to plough a land ten rods wide, instead of striking out a land that width take one-half that width, pace off five rods from the end, and set in your plough and plough to within five rods of the other end and stop; now back furrow as usual the required width and then turn a square corner at the end, observing to have the end furrow on a parallel line with the outside. By this means you will always turn round on the stubble, thus leaving the land untrodden, and instead of 'dead furrows' at the corners you will have 'ridges.'"

EXTRACTS AND REPLIES.

CABBAGE WORMS.

Will you please to give me, through your Extracts and Replies, a remedy for the cabbage worm? The cabbages were all destroyed through this section by a worm formed by an egg or nit of a white butterfly deposited in the head of the cabbage.

Alburgh, Vt., May 17, 1869. H. L. Sowles.

Remarks.—Perhaps there is no better evidence of the value of the cabbage than the fact that it is palatable to so great a number of insects and animals,—a number that appears to be steadily increasing. Every part of the plant, from the crown of its head to the sole of its foot, furnishes food to various forms of animated nature. And who of us has ever cultivated even a garden patch of cabbage without feeling the need of a better knowledge of the nature and habits of the worms and lice and bugs which so often claim the lion's share of our harvest? Where can a better argument for agricultural colleges be found,—we put the question in all seriousness,—than in a cabbage head? Insects cause its roots to "club;" its stem is sawn off by the cut-worm, or destroyed by the "weevil;" its leaves are wilted by innumerable lice, and now, as our correspondent says, the progeny of a white butterfly destroys the head! And the question is for a remedy. Who can answer it? Mr. Henderson, in his "Gardening for Profit," a little book which we take much pleasure in recommending as giving the experience of a practical and successful gardener, says that on a strip of land near the ocean, which is filled with oyster shells, cabbages have been grown year after year for twenty years or more, and though manured with hog manure, and everything else, and though the soil be dry or wet, no club-root has ever yet been seen there; while on a different soil, not more than a mile distant, where ground is cultivated in the best possible manner, it is impossible to get a crop of cauliflower or cabbage clear from club-foot for two years in succession. He infers that the "Communipaw shore," as the oyster-shell land is called, contains so much lime as to make it fatal to insects. Hence he recommends the application of lime, particularly in the form of ground bone, which he applied after ploughing, at the rate of 2000 pounds per acre, and harrowed in. The experiment, he adds, was rather costly, but on the whole satisfactory.

A correspondent of the Concord, N. H., *Statesman* says that some ten years ago, while visiting the farm of the Insane Asylum of that State, he was much interested by a field of some three thousand cabbages, the largest and best he had ever seen, while on his own farm the crop had to be abandoned on account of club-foot. He was informed that the manure for cabbages at that institution received all the beef and pork brine and waste salt of the institution, amounting to many barrels each year; and since they had made use of the salted manure they had not failed to raise extra large crops, which for years had taken the lead of all others at the New Hampshire State and county fairs.

To avoid the cut-worm, plant on new ground, and a correspondent of the *Country Gentleman* says, open the hills as for potatoes; put in a shovelful of night soil and dry muck, or any good compost of manure, except hog manure, cover slightly and on this sow a dozen or more seeds, so as to have some plants for an occasional enemy, and gradually thin out to one or two plants in a hill. Hoe often night and morning when the dew is on, and sift on ashes and plaster to help keep away bugs, &c.

In this connection we print the following valuable communication, just received:—

THE CABBAGE WEEVIL.

When I sent my communication concerning the onion worm, I promised if it was worthy a place in the FARMER, I would give more of my experience. I often see the inquiry in the papers, What will destroy the cabbage weevil? Nothing will destroy it, without destroying the plant. It is the offspring of a fly, and is the onion maggot.

Butterflies or millers produce nearly all the insects that are such a pest to the farmer and gardener. I once placed a caterpillar with yellow middle and black ends, under a glass, and at the same time I placed one with red middle and black ends under another glass. The first produced five flies or millers which proved to be the veritable onion fly, the other one produced four flies or millers of about the same size of a yellowish brown color.

Suspecting that I had found the author of the cabbage weevil, I visited my garden early a few mornings and caught the creatures at their work. I immediately hoed my cabbage and put a handful of wood ashes around each plant. I was on the right track. In a short time my plants where the fly had been at work, began to wilt. I took a shovel and removed a shovelful of earth where the plants stood, carried it away, and replaced it with other earth, and set my plants and put ashes around them. I had conquered. Some may inquire what time I put on the ashes. About the third or fourth time I hoe, and again the next hoeing; no matter how many times, ashes are a good fertilizer. Try it gardeners. I have not been troubled since I found out the author of the weevil.

Chelsea, Vt., 1869. O. HOYT.

We are aware that all this does not answer Mr. Sowles' question, and we confess that we are not able to answer it. Who is?

A GOOD BARN.

I want to build me a barn which will contain forty tons of hay and accommodate twenty head of cattle and two horses.

Will you or some of your correspondents give me some plans for such a barn. I want one that will not cost more than $1500, and should rather build one for $1000 or $1200, if for that money I could build one that would answer my purpose.

You know, Mr. Editor, that a good convenient barn is a very useful appendage to a farm, and hoping I never shall have occasion to build but one, I want to consult a number of plans and try to suit myself the first time.

A YOUNG FARMER.

Alfred, Me., May 4, 1869.

REMARKS.—These fictitious signatures are very inconvenient, as well as improper. The rule of Editors not to take any notice of a communication without a responsible name, ought to be enforced in every case, and we have nearly made up our minds to throw every one of the kind directly into the waste basket. If requested to do so, we will withhold the name from publication; but it should always be given, if not as a signature, as a guarantee of good faith on the part of the writer. But farmers are so exceedingly modest! If "Young Farmer" had sent us his address we would have forwarded him one or two plans which we have published. That in the Weekly FARMER of February 6, Monthly, page 148, we consider a very good one. Our neighbor, Mr. J. Bent, of Concord, Mass., has one constructed on that plan. The more we examine barns and the more we use them, the more favorable is our impression of the advantages of that design. It is adapted either to a cheap or an expensive structure.

ONION FLEA.—APPLICATION OF SUPERPHOSPHATE.

In my younger days I was a farmer, but for the last forty odd years I have resided in Boston and New York. Two years ago I returned to the Old Granite, my native State, and commenced farming, at which I feel rather a novice, but thus far have succeeded better than I anticipated. Last year raised from less than half an acre of land Dutch dandelion or chiccory, which brought me $186 in market. All my other crops were fair. This year I am using the superphosphate and would like to inquire of you or some of your numerous correspondents, what quantity should be put in the hill for corn and potatoes, and the process of mixing it with the earth, as I understand it will not do to drop the seed on the raw phosphate. Also, what will destroy the insect that takes the young onion as soon as it is up. We find it very difficult to raise onions here on account of the ravages of a small bug or flea. Is there anything that will destroy them? S. B.

Strafford, Blue Ridge, N. H., May 17, 1869.

Remarks.—The questions in relation to the superphosphate were answered in the **Farmer** of May 1. In the **Farmer** of April 24, we published a preventive of the onion maggot, which has been very destructive of late in many sections. The application of hot water has also been recommended for the same purpose. But we suppose our correspondent refers to another insect, a little bug that is also very troublesome. Abundant seeding, a sprinkling of lime, ashes, plaster, &c, with frequent stirring of the soil, are among the preventives recommended.

DISEASE AMONG SHOTES.

I don't see why farmers or others writing for information through the columns of the **Farmer**, like "S. P. I.," of Washington County, Vt., should use initials or a fictitious signature unless they have some reason to be ashamed of their names. For one, I always feel a greater pleasure in replying to a correspondent with a name than to one without a name.

I had some pigs affected in exactly the same way as were "S. P. I." somebody's, but I don't know what to call the disease. My pigs were in my cattle fold where all out-door feeding was done, and all muck from stables was thrown, and in which the pigs rooted and wallowed at pleasure. They were fed with sour milk, whey, and buttermilk. They grew well,—not a nicer lot of pigs in the whole neighborhood. One day, one of them, while eating, tumbled over as if drunk, seemed to breathe with great difficulty, and died in about an hour and a half. Next day another died. It puzzled me to know what ailed them. Next morning after feeding them, and while looking and thinking what a nice lot of pigs they were, one of them squealed out as if it had been stabbed with some sharp instrument; threw up its head, turned over on its back and was dead in five minutes. I opened it but failed to discover the cause of its death The hide was of good color and free from blotches; gall and bladder all right; nothing in stomach or guts to indicate any stoppage or inflammation; heart good color and fat; lights somewhat inflamed. *Four* died one day. Thinking from the symptoms, the milk might be too heavy food for the stomach, I put it all into the swill tub together with the dishwashing, soap suds, chamber lye, a little bran, and small potatoes *boiled* and mashed. I fed all alike, big and little. The pigs soon got lean and scrubby looking, but I lost no more of them. They all lived, and with one exception, made good bacon pigs; but not so heavy as the same breed did the year before. After changing their food I was quite satisfied the milk was too heavy feed for them. For instance, put a young calf to suck on an old milch cow, and it is a great chance if the calf don't die. The old milk is too heavy for the calf to properly digest. **John Whatmore.**

Bridgnorth Farm, Dunleith, Ill., April 28, 1869.

FRAUD—SHEARED AND PULLED WOOL—FIELD MICE.

Is it a fraud, and actionable, to break up fleeces of pulled wool and put the same with the taggings and enclose in the sheared fleeces? There is a tradition that pulled and sheared wool will not work together.

The season is very much the same as last year at this time. There are still many fine snowdrifts, and Mt. Mansfield shows keen, sharp and white against the western sky. The field mice have engineered a good deal during the winter, but I don't believe they have done any damage. In exchange for a few grass bulbs they have harrowed up the surface and loosened matters and things generally. **Mark Sanborn.**

Orange Co., Vt., May 15, 1869.

Remarks.—What is fraud? Worcester defines the word, "deceit, cheat, guile, deception, trick, artifice, subtlety, stratagem, imposition." If you agree, either expressly or tacitly, to sell sheared wool, we should regard it as a fraud to deliver anything else, and think that by so doing you subject yourself to an action for tort. If a man bargains for sheared wool you have no right to give him pulled wool, though it may be even more valuable to those who want it than that sheared. If one bargains for sweet apples, it is a fraud for the seller to deliver sour apples, though the latter may command a higher price in the market than the former. It is fraudulent, dishonest, treacherous, not to do as we agree.

REMEDY FOR HORN-AIL.

I have used the following remedy for horn-ail in cattle for years with good success, both with my own creatures and those of my neighbors. I have known it to fail in but *very* few cases, and in those the animals were almost dead before anything was done.

If you think it worthy a place in your columns, please give it publication for the benefit of farmers: One gill French brandy, a half ounce oil of spike, a half ounce origanum, (all can be obtained at any apothecary). Rub the hollow between the horns and give ginger tea P. R. F.

Fitzwilliam, N. H., May 11, 1869.

EFFECT OF CUTTING GRASS CLOSE WITH SCYTHE OR MACHINE.

I have heard some farmers say that mowing machines cut the grass so close to the ground that our meadows are running out. Is there anything in the manner of cutting close with a machine more injurious to the land than cutting equally close with a scythe? Twenty-five years ago the grass on the farm on which I now live was thin and short, and unless the scythe was well crowded down the best part of the hay was left on the ground, consequently I have always mowed as close as I could. At that time, about five tons were taken from ten acres; now twenty tons are cut on the same land. A part of this land has been ploughed and manured. The rest has neither been ploughed nor manured, except by foddering out some stacks of hay upon it, and by putting some plaster upon it. On a farm within sight of mine, one of my neighbors formerly raised large crops of grass. His men mowed quite high, leaving a very long stubble. The grass soon began to fail on that farm, and though they now try to cut closer, there is not much more than two-thirds as much hay secured as formerly. I should like to know what farmers have to say to these facts.

Snow fell here on the second of May to the depth of four inches, and on the third and fourth about as much more fell. FARMER.

Wallingford, Vt., May 16, 1869.

Ladies' Department.

DOMESTIC ECONOMY;

OR,

HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

CHAPTER XVI.

HOUSE CLEANING.

Into the most beautiful homes, and under the most vigilant eyes, dust and decay will intrude their unwelcome presence. So stealthy and insidious are their encroachments, that besides our efforts to keep them at bay by daily attention to order and cleanliness, every one knows there must be especial occasions for inspection and renovation of our dwellings, and everything belonging thereto.

In many minds fearful ideas of toil and disorder and discomfort are marshalled under the head of this duty of house cleaning; and, indeed, these occasions are too often carnivals of riot and confusion; yet they need not be laborious nor unpleasant. Energetic and systematic management at the head of the family, combined with good-natured perseverance and general neatness and thrifty calculation, will make them seasons of jollity and merriment, abounding in healthful excitement and improvement.

Such a passion have some persons for the excitement of house cleaning that they take the fever twice a year, passing through it regularly fall and spring; but where there is good attention and care in every-day matters of tidiness an annual attack is sufficient, and the spring, when everything in Nature renews its freshness and beauty, seems the most proper time for its occurrence. But do not begin the renovation too early; not until the cold storms of May are over, and June gives hints of summer arrangements; the garden having been made (because by the loosening of the earth much dust and soil find their way into the house) and the plants for indoor culture the next winter started on their new lives.

During some of the rainy days in May, it is well to bring from the cellar all the cabbages and the beheaded stumps that are standing in the trenches where they have been wintered, the turnips also, and the beets. Set them along the sunniest side of the garden, in mellow soil, and their young sprouts will furnish you with salads and greens for several weeks. Then bring up and set out the onions, for rareripes. Sprout the potatoes that are kept for the table and move them to the coldest and darkest place you have. Pick over your apples; if they are damp put them in clean, dry boxes or barrels. Wash with strong soapsuds every barrel or bin that has held vegetables or fruit. If wood or coal is kept in the cellar remove all chip-dirt and refuse of the coal, as well as all decayed vegetable matter, to the compost heap in the garden. Then take down the cobwebs and scrub off all mould from the walls and ceiling. Scour the shelves and closets with hot strong suds,—if there are traces of mildew, or stains of any kind, use plenty of sand with soft soap. Whether the walls of a cellar be of wood or stone, or its floor of cement, bricks, planks, stones, or the bare earth, every vestige of decay, and all litter, should be removed therefrom before warm weather, or the health of the inmates of the house will suffer from the noxious vapors rising thence.

A good cement for cellar floors can be made of a mixture of lime, coal ashes and water. Then there is the hydraulic cement, commonly used for this purpose when mixed with sand or gravel. It can be bought at a reasonable price of dealers in lime. The plastic slate, too, is said to make excellent flooring. A cemented floor is much easier to keep clean than any other sort, and a woman can apply the cement.

Cellars that are infested with insects should be provided with tables, on which to keep articles of food. These tables ought to be scoured frequently. Upon them green leaves of sage, or tansy, and sprigs of southernwood should be laid—replaced with fresh ones when dry. The legs of these tables should be set in pans of water, to be kept filled through the summer; this water and the leaves will be the destruction of red emmets, black ants, and, sometimes, larger vermin. Keeping wood in the cellar often brings insects there.

Your closets and tables being cleaned and set in order, every part of the cellar except the floor should be whitewashed. For this get a few pounds of unslaked lime,—large lumps of the newest you can buy.

Put the lime into a wooden pail or tub; pour on it warm water and stir it till it is a thick paste. Then throw in a small handful of salt and pour on slowly, stirring the while, *cold* water—rain water is best—till it is of the consistence of milk. (Some persons add a cup of sugar to every gallon of whitewash, to make it adhere better.) Stir the wash frequently while using from it. Apply it with a whitewash brush—a small one with a short handle is the most convenient for a woman's use. A very little lampblack gives this wash a slate color; the same of red ochre, a rose color; indigo, a blue; yellow ochre, buff, or cream color. These coloring substances should be mixed with a little water, and then thoroughly stirred into the whitewash just before it is used. A colored wash gives a pretty appearance to basement rooms, and light cellars, as well as to pantries and store closets, while the lime of the mixture has a cleansing effect.

After the cellar has thus been cleaned let its, doors and windows be kept open the larger part of every fair day; if screens made of wire netting or strainer cloth are substituted for both windows and doors through the summer you will have the benefit of fresh air without fear of the intrusion of animals. About this time—before your garden is made—it is well to see that fences and out-buildings are in good repair, to clear out drains, and to look after the condition of water-butts and cisterns—so that you need not be troubled in your busiest time by the consequences of a neglect of such things. If fences and the outside of your buildings need painting you will probably have to employ a man for that purpose; but I know one lady, intelligent and highly cultivated, who painted herself the outside of her house, as high as she could reach, before calling for a man's help; and another who had the window blinds taken off, and then painted them at her leisure.

The wash mentioned for cellars, etc., is a very good substitute for paint upon fences by mixing with a gallon of it a quart of good flour paste. A very brilliant and nice wash is made of prepared chalk, Paris white, as painters call it, and glue. Get half a pound of frozen glue, (the white, light kind) pound it and mix with cold water, then pour on boiling water—about three quarts—and stir in the chalk—ten pounds to half a pound of glue; then add more water till the mixture is of the thickness of milk. Apply in the same manner as lime-wash.

If you need paint, get a small keg or pail of white lead mixed with oil, two or three quarts of boiled oil, and the same of spirits of turpentine. Mix a portion of the lead with a quart of the oil, enough to make it of the consistence of thick cream; then, for a glossy paint add only a pint of the turpentine; for a dead or lustreless white, a quart; if you wish it to dry quickly get a little of the patent drying mixture and stir altogether ten or fifteen minutes. A small quantity of lamp black, Venitian red, or yellow ochre, mixed with a little oil, and stirred into this white paint, as each is needed, will give different shades of slate, brown, red, yellow, clay, or stone color. To keep the lead or the mixed paint from hardening and drying, the vessels which hold either must be filled up with cold water, and covered closely, except when in use. Thus cared for they will remain fresh for months. It is good economy to own two or three paint brushes of different sizes. Keep them in water in warm weather—when there is occasion for their frequent use. Clean them with spirits of turpentine in the fall, and let them remain dry through the winter.

These matters having been attended to, look to your wardrobes, closets, drawers and chests. Dust them nicely, and if they need washing, use, as for all nice cleansing purposes,—not the numberless powders and soaps so loudly advertised and puffed for their labor-saving qualities, which are generally injurious both to the paint and the hands of the washer,—but a harmless and most excellent preparation of your own, made in the following way:—One bar of hard soap cut into small pieces and dissolved in four gallons of hot rain water, which is kept over the fire till the mixture is ready to boil. Then stir in a quarter of a pound of borax and one pound of common washing soda—finely pulverized. This makes a soft soap, of which two tablespoonfuls to a gallon of water gives a suds strong enough for all sorts of washing or scrubbing.

If any receptacles for clothing are not completely tight the cracks should be covered with strips of paper pasted over them; and if you have any fears of the moths, sprinkle benzine very plentifully within and about them, and among the woolens placed therein put cedar chips or shavings and tobacco stems. Furs should be thoroughly shaken, and hung in a draught of fresh air a day or two before being laid away; then placed in thick paper bags, with a little gum camphor; the bags pasted very tightly—not a crack or a crevice anywhere to admit air. No moths can then attack them from the outside, and if any should chance to remain after the shaking, the camphor will destroy them. But many sins are laid to the charge of the moths that are really perpetrated by our common house-flies and those little silvery fish-like insects that are called *shiners*. Spirits of turpentine, or benzine, sprinkled about the haunts of these latter insects will cause them to "skedaddle." When the flies abound, all furs and woolens should be kept well covered from them, and death-dealing potions, in the shape of saucers filled with a mixture of cobalt, sugar and water, or the "Lightning Fly Paper," placed in their way.

Before laying away winter clothing, and the blankets, spreads and heavier quilts, it is well to repair and wash all that require such treatment; and those that are beyond repair place with your materials for making carpets and upholstery work; the rags being cut out, both cotton and woolen assorted, and your savings of the same during the year,—together with old newspapers, worn-out or useless books, broken glass, bits of old iron, &c.—placed in readiness for disposal to purchasers of such things.

There is always in every house more or less rubbish—broken or defaced furniture, cracked crockery, handle-less jugs and pitchers, noseless coffee pots and teapots and teakettles, leaky pails and pans, machines or implements, or tools, that have become rickety or rusty, or have been crowded out of use by more attractive or better inventions, and old-fashioned and faded clothing,—all of which when first set aside seem too good to destroy, and which are waiting a convenient season, when, by some wonderful ingenuity, they are to be restored to usefulness. This they are kept for in some out-of-the-way place—usually the garret—and every spring need to be dusted and replaced and re-arranged. Sometimes at this spring cleaning a spasm of sense leads the good housewife to attack her collection with a daring hand, and presto! they are whisked into the tinman's cart or an old-furniture wagon and she has ample space for drying her herbs, and the children get a new play-room besides; while her pantry becomes resplendent with new pans, and her closets glitter and gleam with new glass and china, gorgeous to behold; and a pretty whatnot, or chair, or table gets the best place in the parlor.

The next thing to be done is to clear the chimneys. The grimy *sweeps* are seldom seen outside our largest cities, so we must either burn the chimneys out by rousing fires some rainy day, or hire a man to go to the roof of the house with a brick or a billet of heavy wood attached to a strong rope, which he will lower and raise through the flues till we have reason to suppose that the soot is all scraped down to the foot of each flue; whence it must be removed as it falls into the fireplace, or, if there is no fireplace, by displacing a brick. Marble mantels should be cleaned by rubbing them briskly with a woolen cloth wet with cold soft water—soap yellows them. When turned yellow they may sometimes be whitened by occasionally wetting them with weak lime-water.

The bedrooms and their furniture should then be examined; if you have the least suspicion that the joints or crevices of your bedsteads are inhabited, or that any blood-thirsty red-skins—not to give those intruders a worse name—have taken lodgings in the walls or about the floor. After a thorough washing and scrubbing with soap suds, give every spot that would be likely to harbor them, a plenty of drink for them, by applying thereto with a feather a solution of corrosive sublimate—one ounce in half a pint of New England rum, prepared by a druggist. If one application does not finish them, try another. If your room is badly infested it may take even more; but it is sure to clear them all out if you will persevere in its use during the month of June, then by keeping your bedding clean and allowing a plenty of fresh air through the apartment you will never again be troubled with them. If the room is carpeted the carpet should be removed before you begin this operation.

Taking up carpets, shaking them, and putting them down are the most laborious jobs of house cleaning—if you can impress a man or a large boy into your service, get them to do these for you. Your curtains are easily removed; should be washed, if of muslin or white cotton, and left soaking in clear rainwater, in the sunshine, while you get the room ready to put them up again. If you have a grass plat they will whiten better by spreading them there. Carpets are generally *beaten* too much. If you can spread them on the grass and sweep them well, first on one side and then on the other, a number of times, they will look better and will not be so worn as by beating. A small rattan cane, a cowskin whip, or a few birch or willow rods are the best implements for beating them with, and it is well to hang them on a line or bars for this purpose. Nice carpets should only be shaken lightly and then swept with a soft brush. Let them be left in the open air several hours.

While your curtains are bleaching and your carpet airing you will do your cleaning of the room. Don't attempt more than one room at a time and finish all the chambers before you begin with the lower story. Commence your work by sweeping the ceiling with a soft brush or a cloth tied over a broom. Then rub the wall paper, as high as you can reach with your hand, with a piece of old flannel—if there are any very bad spots upon it use a crust of white bread, rubbing with the inner side. Make a sort of mop, by tying the flannel to a pole, for cleaning the higher part of the wall. After this wash the windows, cleaning the sash with the soap suds before mentioned.

Never apply soap directly to paint. If it is badly smoked or soiled wet your brush or cloth—flannel is better than cotton—with hot suds, and take upon it a very little fine sand, with which rub lightly, and rinse with clean water immediately; then rub till dry with an unwet cloth. A meat peg, or a strip of whalebone, is of great use to clean corners and crevices and mouldings; cover it with your cloth; you will need this in cleaning the window sash.

All wood that is varnished should be lightly washed with cold weak suds, rinsed with cold water, and rubbed briskly with a dry flannel or an old silk handkerchief. Window panes are easily cleaned with the patent window polish now for sale at most paint shops; a very little of this mixture rubbed over them with a damp cloth, allowed to dry, and then removed with a dry cloth; leaves them beautifully clear and lustrous. If you haven't this, wash them with suds and wipe them with paper,—a few blank sheets procured at a newspaper office will be enough for all the windows of a large house. Some persons take out their windows in order to wash both sides of the panes. This is not necessary if you have a long handled window brush, or any means of showering or syringing them.

Of course all furniture that could not be removed from the room you covered with shawls or sheets to keep out the dust, before the carpet was taken up,—the paper or straw beneath the carpet was well shaken and laid aside for use again, the floor was sprinkled with tea or coffee-grounds or wet grass, to prevent as much as possible the dust from rising, and then swept; so that now the furniture can be carefully dusted; the pictures, also, and then the glass that covers them carefully wiped with a moist cloth, upon which pour a few drops of camphor or cologne for cleaning oil paintings—and if you wish to keep the flies from their frames boil half a dozen onions in a pint of water, and wash them lightly with this when cold, using as a small mop, a bit of flannel tied to a stick.

In cleaning paint have a pail of hot strong suds made of the borax and soda soap, mentioned in the early part of this chapter, and also a pail of clean warm rainwater. Wash either with a soft scrubbing brush or a piece of flannel, a small portion—not more than a square yard—and then rinse well. If the paint is much discolored lay out a good deal of "*elbow grease*," but never put undiluted soap in contact with it; good suds and a careful use of a very little fine sand for the worst places is much better.

After the cleaning is over, if the ceiling needs whitening and you do not dare attempt it yourself, get some one to apply one or two coats of the lime or the chalk wash before spoken of. If your paint needs renewing you can go to work with the paint prepared as recommended when the repairing of fences, &c., was spoken of. The first coat of paint should be mixed almost entirely with oil, and allowed to become perfectly dry, then the next may be more or less glossy, as you desire. The less spirits of turpentine used the more liable the paint will be to turn yellowish, but the greater will be its gloss. In applying paint take but a very small quantity upon your brush, and rub it lightly into the wood by following the grain in short quick passes—finish it by longer and slower strokes, obliterating, as you proceed, all traces of the brush; never cross the grain of the wood in finishing. Wall washes should be applied in a similar manner. This is not hard work, and by attention to these particulars any woman can do as well with such matters as a man.

Perhaps, too, your rooms need new wall paper. After the paint is dry you can *hang* them, (paste them on) if you please, as a great many women do. If you choose a plain paper, or one having much blank surface, the old paper must be all taken off, the roughness of the wall smoothed with sand-paper, and broken places or indentations filled with a mixture of calcined plaster and lime-water made into a thick mortar—which will dry immediately. Then the wall may be wet with glue-wash,—quarter of a pound of glue pounded and dissolved in a quart of hot water. But if your paper is well covered (has a mixed, spreading pattern or many close, small figures) the inequalities beneath it will not show, so the old paper, having been nicely swept, can be left on.

Make a paste by pouring boiling hot water upon three quarts of dry flour with which quarter of a pound of pulverized alum has been mixed. Pour the water slowly, stirring it well as you pour. When the mixture is a little too thick to spread with a brush, stir in half a pint of spirits of turpentine, if you have insects about your walls, if not, the same quantity of water.

Let this paste get cold, then measure your walls and cut a length of paper. A striped paper is the easiest to hang, because it has no joints or matching of figures along the seam; these need a good deal of calculation about cutting and much attention in the hanging. If you have a figured paper, and no cornice, and no border for the top of the room, cut the lengths so that a figure commences at the top; with a cornice or border the pattern is more effective commencing a short distance below.

If you have a long ironing board, it is just the thing to lay your lengths of paper upon for pasting; but a table will answer,—which you will keep from getting defaced by covering with a clean sheet. Lay on this the length, and spread on its wrong side a thin coat of paste, with a small, soft paste brush,—which is similar in size and shape to your whitewash brush. See that every part is evenly covered with the paste; then fold the paper across the centre, and with a sharp knife trim the left hand side, by a rule or yard-stick, according to the colored lines or dashes that are placed as a guide for trimming along the side of the paper. Then, it being still folded, lift this length to the wall, (while raising it let the fold open) and touch the top edge to the wall, allowing the paper to drop straight by its own weight. Then with a dry brush, like that used for spreading the paste, sweep it gently down and across till all wrinkles are gone; it may need in some places loosening and dropping again before this is accomplished. When it is smooth, press it carefully with the brush wherever it seems loose, particularly along the seam. If the paper is very thick it is well to roll the seam after closing it; a wooden castor is very good for this purpose. A clean towel, or a soft cotton cloth, is better than a brush for smoothing and pressing a very thin paper. Paste upon the outside of any paper injures its appearance, so great care must be taken that none gets there. This will be prevented in a great measure by keeping the length folded—the paste within—as you take it to the wall; but it is sometimes squeezed out at the seam by the pressing and rolling, if there is much near the edge.

Now we come to the floors. These if carpeted need only a good washing with soapsuds. Unpainted floors that are not carpeted need frequent scouring with a stiff brush, using very little soap and a great deal of sand; that is, the common pine floors of kitchens, and similar rooms,— too much soap makes them yellow and dingy,—they need to be well rinsed and wiped perfectly dry. Painted or varnished floors (if *both painted and varnished* you have the most durable covering you can get for a floor) and painted carpets wash with a soft cloth—woolen is best—in perfectly clean luke-warm suds; then rinse them with clean warm water or skim milk and rub them dry. Much cleaning of floors is saved by laying mats and rugs upon them; which should be taken frequently to the back yard and swept,—it spoils mats and rugs to beat them, or to shake them much.

Closets and cupboards are easily kept clean if papers are laid upon the shelves,—which can be occasionally removed and dusted, if soiled replaced with other; the blank papers procured at the newspaper office are very good for this. Fit them to the shelves, with about an inch hanging over the front, which may be cut in scallops and eyeletted by the children; your closets then will have a very nice appearance with but little trouble. The shelves of pantries, store closets and pot closets should be covered with brown paper; and small mats cut from old painted carpet save a good deal of work in the kitchen by being placed where hot kettles and pans are set when baking and other cooking is going on.

Youths' Department.

OLD SCHOOLMATES.

Whenever a new scholar came to our school, I used to confront him at recess with the following words:—"My name's Tom Bailey; what's your name?" If the name struck me favorably, I shook hands with the new pupil cordially; but, if it didn't, I would turn on my heel, for I was particular on this point. Such names as Higgins, Wiggins, and Spriggins were deadly affronts to my ear; while Langdon, Wallace, Blake, and the like, were passwords to my confidence and esteem.

Ah me! some of those dear fellows are rather elderly boys by this time,—lawyers, merchants, sea-captains, soldiers, authors, what not? Phil Adams (a special good name that Adams) is consul at Shanghai, where I picture him to myself with head closely shaved,—he never had too much hair, —and a long pigtail hanging down behind. He is married, I hear; and I hope that he and she that was Miss Wang Wang are very happy together, sitting cross-legged over their diminutive cups of tea in a sky-blue tower hung with bells. It is so I think of him; to me he is henceforth a jewelled mandarin, talking nothing but broken China. Whitcomb is a judge, sedate and wise, with spectacles balanced on the bridge of that remarkable nose which, in former days, was so plentifully sprinkled with freckles that the boys christened him Pepper Whitcomb. Just to think of little Pepper Whitcomb being a judge! What would he do to me now, I wonder, if I were to sing out "Pepper" in court? Fred Langdon is in California, in the native-wine business,—he used to make the best licorice-water *I* ever tasted! Binney Wallace sleeps in the Old South Burying Ground; and Jack Harris, too, is dead,—Harris, who commanded us boys, of old, in the famous snow-ball battles of Slater's Hill. Was it yesterday that I saw him at the head of his regiment on its way to join the Army of the Potomac? Not yesterday, but five years ago. It was at the battle of the Seven Pines. Gallant Jack Harris, that never drew rein until he had dashed into the rebel battery! So they found him—lying across the enemy's guns.

How we have parted and wandered, and married, and died! I wonder what has become of all the boys who went to the Temple Grammar School at Rivermouth when I was a youngster?

> "All, all are gone, the old familiar faces!"

It is with no ungentle hand I summon them back, for a moment, from that past which has closed upon them and upon me. How pleasantly they live again in my memory! Happy, magical Past, in whose fairy atmosphere even Conway, mine ancient foe, stands forth transfigured, with a sort of dreamy glory encircling his bright red hair! *—From T. B. Aldrich's "Story of a Bad Boy" in "Our Young Folks."*

AFRICAN ANTS, OR TERMITES.

In Africa and in the Indies there are found in great numbers several varieties of large ants, some of which construct huge hills, or nests, ten, twelve, and, it is even said, twenty feet high. These are built by what is known as the Termites, a species resembling, and sometimes improperly called, the White Ant. The illustration at the head of our article shows the nest of a white ant, which Du Chaillu observed in the African forest. It is not so large as the nest of the termites, being about four and a half feet high.

The termites are divided into four different classes—the males, females, and the neuters—in which are included the *soldiers*, whose duty it is to defend the nest, and the *workers*, who perform all the labor, both in constructing the building and in maintaining the household. The workers of the termites are a fifth of an inch long; the soldiers are twice as long, each one having an enormous horned head, armed with sharp pincers. Each soldier weighs as much as fifteen workers. The males are still larger than the soldiers, weighing as much as thirty workers, and, unlike either the soldiers or workers, are provided with wings. The female, when engaged in laying its eggs, attains an immense size—its head being no bigger than that of the male, but the stomach swells to a huge proportion, becoming two thousand times as big as the rest of her body. She attains six inches in length, and weighs as much as thirty thousand workers. One cannot help wondering what the little ants—the fierce soldiers, and the busy workers—think of such a monster. It seems, according to the accounts, that they delight in her—the soldiers, at the least alarm, rush to defend her, and the workers all day long attend to her wants.

Her wants, indeed, are very numerous. She does nothing but lie motionless in her cell from morning to night and lay eggs, which she deposits at *the rate of sixty a minute, or more than eighty thousand a day*. Thousands of the workers busy themselves around their queen-mother, feeding her, carrying away the myriads of eggs that she lays, and placing them in minute cells, where they soon become juvenile ants. The queen-mother seems to be adored by all the rest. She appears, says a writer, to be their *beau ideal*, their poetry, their enthusiasm. If a portion of their city should be destroyed, you will see the workers setting to work at once to build an arch which may protect the venerated head of the mother.

So remarkable is the increase of the termites, that, if many other species did not combine to destroy them, they would fairly become masters of the world. They would destroy everything but the fish, and convert the earth into a vast ant-hill. But birds of all kinds are very greedy after them.

[Copied by permission from *Appleton's Juvenile Annual.*]

AFRICAN ANTS, OR TERMITES.

Although larger than the white ant, they fall victims to that creature in immense numbers. The negroes in Southern Africa cannot get enough of them. They roast them like coffee, and thus prepared eat them by handfuls, declaring they are delicious. They also knead them up with flour, making a sort of plum-cake, which is highly appreciated by the natives. Even white travellers admit that they make very nice food, having the flavor of sugared cream. So, notwithstanding the immense numbers that come daily into the world, birds, insects, and negroes unite in consuming them to an extent that keeps them within reasonable bounds.

The hills and nests are not only of immense size, but have a solidity which will bear almost any trial. Not only can many men mount them without shaking them, but buffaloes establish themselves upon them as watch-towers, from which they can see, over the high grass which covers the plain, if the lion or panther is threatening them.

If the hill is attacked, the soldiers are to be seen rushing out furiously to its defence. They rush upon the aggressors, pierce them till they bring blood, and with their sharp pincers hang on to the wound, and allow themselves to be torn to pieces rather than let go their hold. The negroes, who are without clothes, are soon put to flight, and even Europeans get badly pierced and wounded. During the combat the soldiers strike from time to time on the ground with their pincers, and produce a little dry sound, to which the workers answer by a sort of whistling. The workers immediately make their appearance, and begin stopping up the holes in the hill, and repairing damages. If the attack continues, the workers mask the passages, stop up the galleries, and wall up the cell in which the queen-mother is concealed. If the cell is penetrated, and the mother-insect removed, the workers will continue their labors, for they are blind, and cannot immediately detect the loss of their queen.

These creatures sometimes enter houses, perforating unseen the beams, wood-work, and furniture—never destroying the surface, but forcing their way by galleries eaten away through the centre. They have been known in one single night to pierce the whole of a table-leg from top to bottom, to enter a trunk placed upon the table and devour its entire contents, and then to descend through the opposite leg. Their demolitions in India render them the greatest plague of the country.

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MONTHLY.

SIMON BROWN, S. FLETCHER, } EDITORS.

HINTS FOR AUGUST.

ALL the grain is harvested; the hay crop is secured, except perhaps a little low ground hay, which is being got in as rapidly as possible, and the hoeing of the corn and potatoes is completed. What shall we occupy ourselves about during the month of August?

The meadow hay has to be cut mostly with a scythe, as the ground is too soft for the horse and mowing machine. Many of our meadows may be fitted for the mowing machine, and indeed the work of preparation is already begun. The high price of labor, and the facility which the use of the machine offers for the rapid gathering of meadow hay, are leading enterprising farmers to render their meadow soils firm enough for the machine by ditching and by surface dressing with sand or gravel. By these means they not only prepare it for the machine, but greatly improve the quality of the hay.

Now is the very time to attend to this matter of ditching. As soon as the hay is taken off, have a proper survey made, so that the ditches may be led in the proper direction, and made of suitable depth, and go right about it. As the muck from the ditches is wanted for the barn yard and cellar, two birds may thus be killed with one stone. The price paid for labor, and the difficulty in obtaining laborers at any price, must surely impress us all with the importance and economy of fitting every acre possible for the mowing machine. Let past experience induce us to make a beginning, and prepare a few acres for next season. Let the ditches be of suitable depth, and run in parallel lines; then the machine will make clean work between them. A wise economy will lead those whose meadow lands are capable of this improvement to give attention to this subject.

The turnips and beets will now require careful attention. The cultivator should be put through the rows as often as once a week. They must be carefully thinned and weeded. Clean culture is absolutely necessary to success. We think that ashes and superphosphate are the best manures for these crops, because they do not contain the seeds of weeds. A field that is well manured with barn manure, and well cultivated with corn or potatoes, is in a good state for turnips or beets, with only a dressing of superphosphate and ashes, or superphosphate, plaster and salt. Pure ground bone is probably the best dressing for turnips, if it is properly prepared. This should be done by mixing it with moist loam or good garden soil, and shoveling it over once a week, for a month before it is used. Do not allow the plants to stand too thick in the rows. We are apt to err in this respect.

The garden will still require attention. Do not allow weeds to run to seed. They will make you pay for it next year. Trim the squash vines that are growing too rampant. Put a shingle or piece of board under the squashes or melons, especially if the ground is moist. It will often save them from rotting. Look after the trees that were trimmed last winter, or budded last year, and cut off the shoots that have been thrown out.

Look sharply around the young apple trees and peach trees for the borers. They are now in the bark, and may be easily reached with the point of a knife.

The early potatoes are now getting ready for market. The price often depends very much upon the manner of preparing them for the market. Wash them thoroughly and dry them, and put into the boxes or barrels only those of suitable size. A few small potatoes put in to fill up will often spoil the sale of a whole package.

Labor and care expended in preparing all articles for market are well repaid. Some men get from ten to twenty per cent. more for their vegetables, fruit and butter than others do, merely because they are put up in better shape. This is especially true with regard to small fruits and early vegetables, which are perishable in their nature, and subject to rapid decay. It always pays to have nice clean boxes and barrels, free from dust and all bad smells. There is quite an art in packing for the market, and it can only be acquired by pains-taking and observation. No expense is better incurred than that which is put into the best means of packing articles for the market. The manufacturers of fancy goods understand this matter. The boxes and their ornaments often cost more than the articles they contain; but people readily pay the difference between an article neatly and tastefully put up, and one put up in a cheaper style. We recollect that many years ago a produce dealer in South Market Street, a native of New Hampshire, issued a circular to the people of his native State, in which he estimated that the farmers of that State lost at least fifty thousand dollars annually by not packing their butter properly for market. Many of the people in our cities regard the quality and style of an article much more than the price, and those who consult their tastes and wishes will always secure the best class of customers.

August is the time for reseeding grass land. The earlier in the month the sod is turned over, the better. Let it lie a couple of weeks, and then top dress with compost, and sow the seed, and apply the harrow vigorously, and follow with the roller, and you will be sure of a good catch, if the seed is good. We think the last week in August or the first week in September is the best time to sow the seed. It will then get well rooted before the frost comes, and will be less liable to be winter killed than if sowed later. We are satisfied that since the adoption of this style of seeding grass lands, and at this season, our hay crop has much increased.

Now is the time to put in a patch of winter wheat. A piece of land from which the early potatoes have been taken should be ploughed and levelled with the harrow. Then top dress with fine compost and sow the wheat, and put it in with the cultivator and roller. The last week in this month is as good a time as any. Thus a good stand will be secured for winter. Winter wheat often fails from being sowed too late, and not being put in sufficiently deep. Wheat should be *planted*, not sowed. When we learn to put it in with the drill or the plough, our crop will be more sure and the grain of a better quality.

Thus, much of the work of August has reference to next year. So it always is with respect to the present. We are reaping the fruit of the past, or sowing for a future harvest. Then let us not forget the responsibility which attaches to the present time. It is the only time we can call our own.

EFFICACY OF ONIONS.—A writer says:—"We are troubled often with severe coughs, the result of colds of long standing, which may turn to consumption or premature death. Hard coughs cause sleepless nights by constant irritation of the throat, and a strong effort to throw off offensive matter from the lungs. The remedy proposed has often been tried, and is simply to take into the stomach before retiring for the night a piece of raw onion after chewing. This esculent in an uncooked state is very healing, and collects the water from the lungs and throat, causing immediate relief to the patient."

For the New England Farmer.

THE GARDEN IN AUGUST.

The planting and heavy work in the garden is mainly done for this season, and but little now remains except to keep the crops thriving and free of weeds; to clear off crops to be succeeded by late ones; to save seeds as they ripen, and make provision for future fertilizers. If our previous remarks on the importance of a good garden have induced farmers, or others who have suitable land, to give a little extra care and labor to planting and cultivating a variety of vegetables, we hope that the result has justified all that we have said, both as to the profitableness and pleasure of a supply from ones own garden and from ones own labor. Still, as the "dear bought and far fetched" are too often overvalued, so there is danger that what we raise ourselves, or that which springs up almost spontaneously about us, will be undervalued. To appreciate the crisp freshness of vegetables taken from the garden, bedecked with the crystal drops of morning dew, one needs to partake of those that have been wilted, shrivelled, and heated by long transportation and exposure, thus losing not only their natural sweetness, but becoming actually unhealthy.

Asparagus.—Any weeds that the dense growth of tops have not kept down should be pulled out. If seed is desired, it is advisable to gather it as soon as it gets ripe, and sow at once—which is nature's way—or preserve to sow in spring.

Beans.—Dwarfs will be yielding freely now, and the poles will give us shelled beans, if proper care has been given them. Save some of the earliest and best to go to seed. If you have a surplus of string beans, they can be put up for the winter, by some of the approved modes of saving, or they can be allowed to ripen, and be saved as shelled and dried field beans, which they will equal in many respects.

Beets.—Thin the late planted, and use those pulled out for greens. Early and middle planted will answer for pulling to cook; pull first from those that stand nearest together, although the single ones may be the largest. A rapid, quick growth produces the best and most tender beets. It will pay to water small beds with liquid manure.

Cabbage and Cauliflowers.—Early planted will now be ready to use—selecting those most mature. It is not too late to set out plants for winter use, as the cabbage heads more rapidly after the cool fall weather than when it is hot and dry. Encourage them to a rapid growth, by frequent hoeing and applications of liquid manure.

Celery.—If the early planted has grown sufficiently, commence to earth it up. Late crops may be transplanted, if done early in the month. In transplanting, shorten the roots and remove straggling leaves; shade with evergreen boughs, or by other means, if the weather be bright and warm.

Corn.—The last planted will need frequent hoeing, and if stimulated with weak guano water, it will hasten the growth of that which is a little backward. The early planted will now be yielding good boiling ears. Some of the earliest and best ears should be saved to ripen for seed.

Cucumbers.—Gather for pickles and use when they attain a size to suit the fancy. Keep them closely picked, if you desire the greatest yield. A sufficient number of hills should be left to grow the seed needed; selecting the most perfect specimens nearest the roots. Others should be removed from the vines.

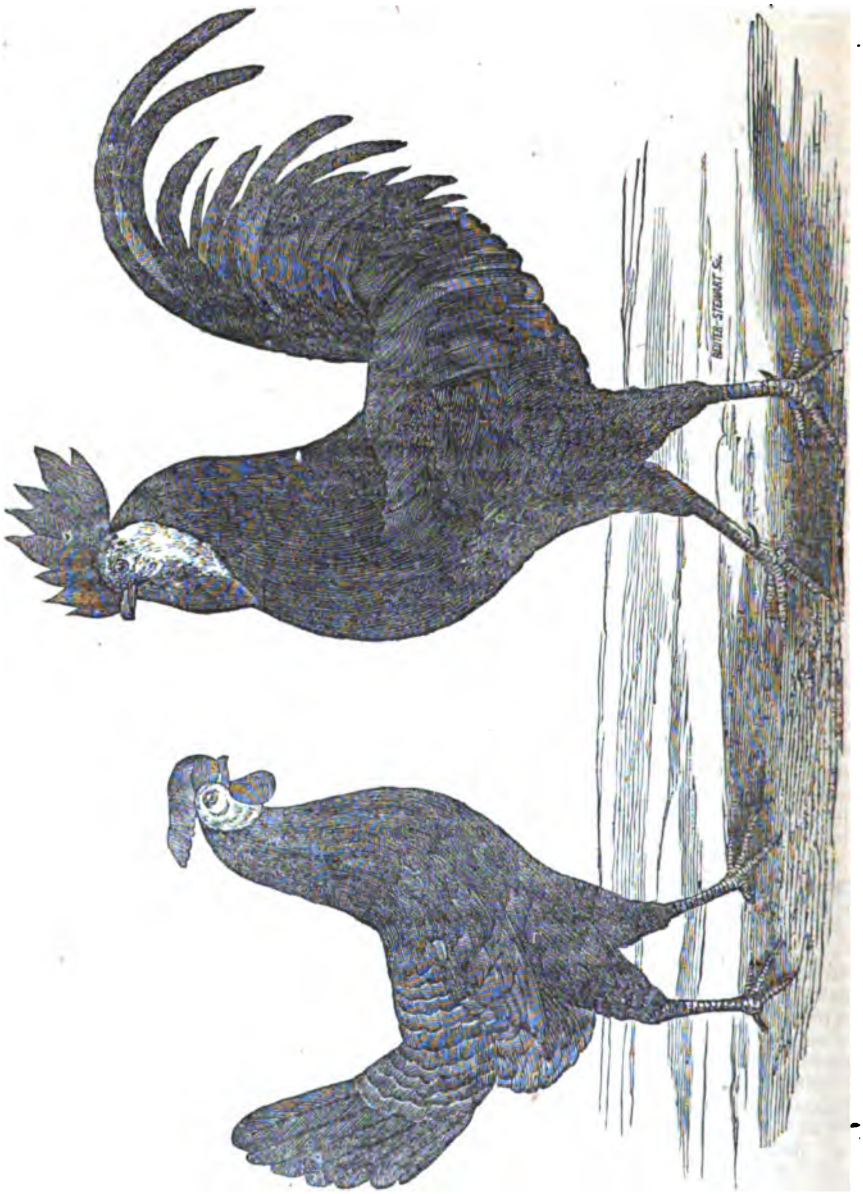
Manure.—No thoughtful gardener will neglect to provide for the future, by preparing and composting all vegetable and animal waste, as well as adding the slops and wash from the house. The vegetable matter from the garden and grounds, if properly composted with such articles as are allowed to waste their fragrance in the air from and about the house, will go far towards keeping a garden in a high state of fertility.

Melons.—If much fruit is set, it should be thinned to only a few specimens to each vine. Ripening may be accelerated by placing a thin flat stone or shingle under each specimen; an occasional careful turning will tend to more evenness in ripening, but this must be *carefully* done.

Seeds.—Use all care in saving the earliest, most healthy and best formed specimens from the healthiest plants, for maturing seed; and when ripe, properly save and care for the same. Never trust to memory, but always correctly label each package as laid away. Every experienced gardener knows the value of *good* seeds, that will *grow* when properly planted, and the vexation and loss from seed of a poor or inferior quality, and he is sure of getting the best in no other way than by growing and properly saving it himself. The best and most conscientious seed dealers sometimes fail to furnish good seed, as I have reason to know by late experience. Desiring a little Broom Corn seed, of a variety not at hand last spring, I obtained a small package from one of the most reliable seedsmen; but from the package only about a dozen seeds germinated or came up. I do not mention this to discredit any seedsman, but to show the importance of growing our own seed as far as possible, and of testing its germinating capacity before planting.

W. H. White.

South Windsor, Conn., 1869.



BLACK SPANISH FOWLS.

Of this beautiful breed of fowls, Mr. Bement gives the following description. The thorough-bred Spanish fowl should be entirely black, as far as feathers are concerned, and when in high condition display a greenish metallic lustre. An erect, brilliant, scarlet comb, serrated; with a clear milk-white face and ear-lobes; dark-blue legs; and a lofty carriage. Wattles of the hen small, but large and very conspicuous in the cocks, and, like the comb, of a light scarlet. This marked contrast of black, bright-red, and white, makes the head of the Spanish cock as handsome as that of any other variety; and in the genuine breed the whole form is equally good. The cock-bird should be strong and short in the legs as possible; his back from tail to neck short, tail large and ample. He should weigh not less than six pounds; the head is rather large, the spurs long and sharp, and the bearing and carriage proud and high.

Spanish hens are also of good size and good figure, and are celebrated as good layers, producing very large white eggs. The head of the hen should be neat, and of moderate size; eyes bright; comb single, very large and pendulous; face entirely white, the white extending round the eye; neck of moderate length, neatly set on; body broad, wings of middle size; legs a bluish white; tail long and well squared; plumage of a glossy black, with brilliant tints of green and purple, as in the cock, but less brilliant. Her weight should not be less than five pounds.

Mr. Browne says it is doubtful whether they would readily become acclimated in the northern part of the United States, on account of severe frosts, which would be likely to injure their combs. Mr. Wright, author of the English work on poultry recently published by O. Judd, & Co., speaks of them as a delicate race, and says the chickens must be kept out of the damp. If not kept dry they die away rapidly, no one knows how. The pullets will generally lay when six months old, and when kept in an artificially warmed house, and otherwise well cared for, will produce five or six eggs a week during winter.

We are indebted to Thomas B. Smith of Stony Brook, L. I., for the above spirited illustration.

Preparation of Long Wool for Market.—For the last two years I have probably handled more Canada combing wool than any other man in Michigan, and I will only say that to a man of experience, there is nothing easier of detection than stuffed fleeces. My advice to wool-growers is, to wash their sheep well in a running stream wherever this is practicable, shear as soon as perfectly dry, taking care not to let the second growth commence before shearing, as that causes a tender place in the staple and thereby depreciates the value of the wool.

Do not use a box in folding, but after spreading out the fleece on the table, staple side up, turn the flanks inside, commence at the breech and roll up, making wool twine out of the neck to tie around the fleece, which is all that is necessary. All English as well as Canada combing wool is prepared in this way, and it is much better to handle than those fleeces which have four to six strings around them. All dung balls, tags, and unwashed locks should be carefully excluded, for these things injure a man's reputation, and depreciates the value of wool.—*Cor. Western Rural.*

"PERSONS OF PUBLIC NOTE."

The same number of the weekly New York *Tribune* which contained lengthy eulogies on Henry J. Raymond, late editor of the New York *Times*, published also a letter from a farmer in Indiana, in which the following sentence occurs:—

> "When we see an obituary published in any of the public papers it is generally on some famous lawyer, great judge, distinguished writer, rich merchant, or pious clergyman. But the poor farmer and his boy must die 'unwept, unhonored, and unsung.'"

In the *Congregationalist and Boston Recorder*, of the same week, we read the following announcement:—

> "The charge for notices of marriages and deaths, of only the usual length is twenty-five cents, except in case of CLERGYMEN OR PERSONS OF PUBLIC NOTE. Each additional line *ten* cents."

We did think of preaching a short lay sermon on these texts, but remembering that there is danger of darkening counsel by words, we conclude to halve the matter with "our congregation"—we furnish the text; they the sermon.

It may, however, be proper for us to say that we do not object to the eulogies pronounced on Mr. Raymond. He was an able and an industrious worker, and deserved not only success but the respect of his fellow men. But in the "lower walks of life" there are men who act well their part, and our regret is that there are so few to do them honor. We have long felt that the agricultural papers of the country were hardly doing their duty in respect to honoring the memory of faithful and exemplary farmers, who by their skill and industry have made the desert blossom as the rose, or who have caused two blades of grass to grow where but one grew before. We have occasionally alluded to the subject, and do so now without any definite plan for accomplishing the object proposed, further than to express the hope that no agricultural editor will ever manifest the spirit which dictated the notice copied from the *Congregationalist*. That "the poor farmer and his boy may not die 'unwept, unhonored and unsung,'" let us, instead of charging "ten cents a line," offer to pay that sum, "except in case of persons of public note."

CUTTING AND CURING CLOVER.

Few persons, comparatively, are aware of the value of clover for farm stock, over any of the grasses which are now cultivated. A fair investigation of the matter would result in covering thousands of acres in New England with clover, instead of timothy, red-top, and other grasses. We invite this investigation by all our readers. If they make it, many of them will be convinced that there is no other way of so rapidly and permanently enriching their farms and themselves, as by the introduction of clover. Not now, but in a future paper, we will lay some facts before them on this point. At present we wish to say something upon the manner of cutting and curing clover, believing that the principal reason why it is not more generally cultivated among us, is in the difficulty of curing it for winter use. The mode which we have practiced is as follows:—

Cut the clover when it is dry, and as close to the ground as possible. This should be done for two reasons: 1. Because the portion of the stems which are left are lost, and secondly, because the after-growth is neither so vigorous nor so weighty, as when the first cutting is taken as low as possible.

Let the clover lay as it falls until the surface is thoroughly wilted above, then carefully turn it over without breaking it. This is usually best done with a fork. If the weather is favorable, it will be sufficiently wilted to put into cocks in the afternoon, and should be done while the hay is warm. If the clover was cut by hand, take it up carefully with a fork and make a row of cocks on the middle one of three swaths. If cut by a machine, and the crop is light, it may require the use of a rake to collect it; if heavy, the fork will be best. The hay should be built into compact, conical cocks, by placing layer after layer, and not scattering, shaking out or exposing it any more than is absolutely necessary. If caps are not used upon the cocks, they should be trimmed with care, and so formed as to carry off as much of the rain as possible, should the weather be unfavorable.

These cocks may remain untouched for two nights, or even three, as the principal process of curing is carried on while the grass is in this condition. They should be opened when there is a good prospect of fair weather. When this is the case, open the cocks as soon as the dew is off, and turn the hay over gently, so that it will lay from six to eight inches thick. At half past ten or eleven o'clock, turn the whole upside down, and at one o'clock commence taking it to the barn.

Nearly every leaf will be preserved by this process; injury from dew and rain will be in a great measure avoided; the stalks will be better dried, and the appearance and value of the forage retained in their highest perfection.

Use caps if possible. It is highly economical to do so. They can be placed upon the cocks in less time than the cocks can be sufficiently trimmed to shed even a portion of the rain, and the process of curing goes on faster under them than when the cocks are bare. Besides this, they prevent the sun and dew from acting upon the grass. An intense sun is almost as hurtful to clover as rain; and, therefore, it should not be shaken out, spread or exposed, oftener than is necessary for its preservation. The more the swath is kept unbroken, the more green and fragrant will be the hay.

When clover is cured in the old way, by spreading, the leaves and blossoms are dry long before the stems are cured,—and when the hay is unloaded at the barn bushels of the former are left upon the wagon, or scattered upon the barn floor, while little but the dry stems have been pitched upon the scaffolds.

If cured in the cock, all parts of the plant dry alike, the moisture in the mass is equalized, and when gathered to the barn, there will scarcely be a leaf lost, while the stalks will be amply cured. A slight fermentation often takes place in the cocks, which, instead of doing injury, is a benefit, as it prevents the hay from afterwards heating in the mow or scaffolds. The secret of making good hay, says Low, is to prepare it as quickly as possible, and with as little exposure to the weather, and as little waste of the natural juices as circumstances will allow. Then the hay will be sweet, fragrant, and of a greenish color.

THE COMSTOCK SPADER.

A few years ago very sanguine expectations of a revolution in ploughing prairie and other smooth land were excited among the farmers of the West by the Comstock Spader. In reply to inquiries in respect to this implement, the proprietors have published a frank statement in the *Prairie Farmer*. To remedy the first great objection to the machine, that of its cost, they built last year a smaller one. But they confess that on trial this spring, it "performs badly on such conditions as it has been tried in Illinois. It clogs up too easily with trash, especially if wet, and with clean prairie soil when wet; this of course rules it out, and we regard that style as a failure, because it will not work on varied conditions enough. This however has hurt no farmer, and the loss all falls on us and our backers."

For the present, therefore, they feel compelled to fall back on the first style, that for which they received the silver medal at Paris. One of those machines they say has worked six hundred acres, and thus proved its efficiency and durability. Still they admit that some of the implements that they have put out had better not been, though they are gaining knowledge — some of it dear-bought — all the while. They believe that they have the right combination of principles, and that the question now is simply one of proportions and mechanical construction, which involve many difficulties it is true, but nothing insurmountable. Their own experiments have demonstrated this to them, but they admit that the public has not that evidence, and therefore farmers are not to blame for the Spader not being popular with them.

ARE SPONGIOLES ROOTS?

If you examine the roots of trees in the spring, especially roots of last year's growth, you will find no spongioles attached to them, but in their place, innumerable little excrescences, each composed of many cells. From these cells, new rootlets are produced, and to these new rootlets the spongioles are attached. These spongioles are not true roots, any more than leaves are true branches, and they never become roots any more than leaves become branches. As the leaves extract nutriment from the atmosphere so the spongioles absorb it from the soil during the growing season. When their work for the season is done, they separate from the roots and decay in the soil, just as the leaves fall from the branches, and decay on the surface. Could we see the entire tree, root and branch, the parts below the surface and the parts above, during the growing season, we should see the roots and rootlets clothed with hairy spongioles like a coat of fur, while the branches are clothed with leaves woven into tissues of various forms and degrees of thickness and firmness. When the growth for the year is over, and the season of rest, the sleep of winter comes on, both leaves and spongioles are thrown off, and the tree, divested of all its clothing, remains naked and unprotected through the frosts and bleak winds of winter.

GOOSEBERRIES WITHOUT MILDEW.—In a reply to a correspondent who asks if gooseberries can be grown without mildewing? the *Gardener's Monthly* says, nothing is easier than to grow gooseberries. It is a mountain fruit, and does not like a *hot soil*. Plant it so that the hot sun will pour down on the *clearly cultivated* earth, so hot that you can fry a beefsteak or poach an egg on it, and you cannot get gooseberries. But set your plants across the lot in a pretty thick row, and pile up about the plants five or six inches deep of old brush wood, old corn roots, old leather boots, pots, or kettles, even, if you cannot get anything else, so that the roots will always be near the surface, and yet cool; and we will guarantee you a fortune, if you choose to plant enough. In the best gooseberry plantations of Philadelphia, it is no unusual sight to see rows of them which have been in one place perhaps twenty years, so mounded up with this rubbish, that they look as if they were planted on ridges two or three feet above the level of the earth, and every year bearing abundantly. Not only in the gooseberry, but in all fruits, the public must come to this great fact, that their roots must be kept *cool and at the surface.*

BRICK LINING FOR WALLS.—A correspondent of the *Rural New Yorker*, who has filled the walls of many framed houses in with brick, resulting in a dry wall, warm rooms, and rat-proof, rips a lath, twice, making three strips about one-half inch wide, nails these to inside of studding three inches from the face, and then lays the brick on edge, slushing at the end, thus keying with mortar on each side of the strip—the first course to be laid flat. A vacuum is thus formed on either side of the brick wall, and therefore must be dry. If you want a comfortable frame house in *any* climate, this is the way to have it.

WOOL AND WOOLEN EXPOSITION.

The American Institute of New York holds an exhibition annually, similar to that held once in three years by the Massachusetts Mechanics' Charitable Association. This year arrangements have been made for a more extensive exhibition of wools and of manufactures of wools than has ever been made in this country. It is to be under the immediate direction of the National Wool Growers' Association, and of the National Association of Wool Manufacturers. Notice has been given that the grand structure which has recently been erected in the north part of the city of New York for this purpose will be opened for the reception of this class of goods on the first day of September, 1869. Exhibits for the Machinery Department can be sent earlier. The whole exhibition will be open for visitors on the eighth day of September.

We have already expressed our opinion of the importance of this exhibition to the wool growers of the country. Recent events have deepened our impressions of its importance. We believe that a fair show of the various kinds of wool produced in this country, accompanied by the statistics of its production, with some indications of an appreciation on the part of wool growers of their share in this great national industry, and with some evidence of an expectation on their part of a more distinct recognition of their rights by those who wear fine woolens, or are otherwise interested in their production, is not only expedient but absolutely necessary. Unless farmers are willing to abandon sheep husbandry, they must make up their minds to manage their own business. They have depended on others about as long as it is safe to do so. When they conclude to reap their field themselves, certain "storks" may be disturbed that are now enjoying their nests in quiet.

JOHN JOHNSTON.

The health of this gentleman, which has been quite feeble since last July, we are happy to learn by a letter from him of April 30, in the *Rural New Yorker*, has improved considerably within the last month. He has leased all his cleared land at an annual rent of twenty-five dollars per acre per year, for five years, for nursery purposes.

He is now in his seventy-ninth year, and in reply to a request for his experience in fattenning fine wool sheep, he says, "I am not able to write about sheep feeding. I cannot set my mind to it. My day of feeding sheep and cattle has come to an end. I have just sold my last two fat cattle, one a steer, three years old the fourth inst., the other, his sister, will be two years old a week from to-morrow. The steer weighed, two weeks ago, 1,800 lbs, the heifer, 1,215. I never owned better ones of their age."

Other men may have been as successful in farming as Mr. Johnston, but few have made their success so widely beneficial to others as he has done. His example as a pioneer in thorough drainage and in feeding or fattening cattle and sheep has been highly beneficial. His readiness to communicate the results of his experience in these and all other departments of farming and his hearty, hopeful manner of writing have instructed and encouraged multitudes of young and struggling farmers, who will ever hold his memory in grateful recollection.

DANGER FROM GLANDERS.

A week or two since we published a notice of the death of a man in New York from this disease. Several deaths have been reported from the same cause within a few years past. The Canada *Farmer*, in an article cautioning people to be careful in handling horses with the glanders, details the particulars of the recovery, after a long and painful illness, of a man who got some of the virus into a chap on his thumb. The disease in that case did not affect the nasal membrane. Two donkeys were inoculated at the nose with a little of the discharge from one of his ulcers, both of which died on the seventh day afterwards. As a proof of the subtlety of the poison of this terrible disease, and as a caution to horsemen, the following statement is copied from an English paper:—

> A farmer going his usual rounds one morning to inspect his stock, observed a favorite horse in an adjoining field showing symptoms of distress. The horse, on seeing his master, trotted up to the fence, according to his custom. There was a narrow lane between the two fields, and while the farmer was looking to discover what was amiss, the horse snorted or sneezed, and some of the mucus was borne by the breeze over the two fences and across the little lane on to the farmer's face. In a few days the usual symptoms set in, and the man died of glanders as did also the horse. There being no known abrasion of the skin on the man's face, it is

highly probable that this was a case of infection through the mucous membrane of either lips, eyes or nose.

For the New England Farmer.

RHODE ISLAND FARMING.

Having sojourned among the farmers of this beautiful and productive Island a few weeks during the past winter, I venture to record some facts and fancies. The part of the State called the "Island" is connected at the northeast corner with the main land by what is called the Stone Bridge, for teams, also by the railroad bridge. It is about twelve miles long and three broad, with three main roads north and south, and plenty of cross roads to accommodate the farmers.

At convenient distances on the elevated lands are some ten wind mills for grinding grain, and by their sombre and weather-beaten appearance show that they have been in use many years.

The farms are generally separated into small enclosures, from one to ten acres each, and conveniently divided by very good stone wall, most of which has been built so many years that the builders have passed away. On several hills there remain earthworks thrown up by the soldiers in the Revolutionary war. In the northern part of the Island the farms are mostly small and market gardening is carried on to some extent.

Mr. Macomber's Market Garden.

Mr. J. E. Macomber is perhaps more extensively engaged in raising seeds, vegetables and small fruits than any other man, and although his markets are from ten to twenty miles away, yet his early potatoes, cabbage, strawberries, &c., are delivered in such season and condition as to compete successfully with the produce of those who live nearer. On one of his farms occupied by a tenant there was raised on half an acre, 200 pounds cabbage seed that sold for $500; on one-fourth of an acre, cabbages that sold for $130; from two acres of strawberries, there were picked and sold fourteen hundred dollars' worth of fruit. These items, with others, brought in an income in 1867, of $2800 from a very few acres.

He has recently made a plantation of raspberries and dwarf pear trees of the best varieties. He has thousands of cabbage from which to raise seed. They were grown in the fall until the heads began to form, then set closely together in the earth on the north side of a wall, to keep through the winter. Carrot, turnip and beet seed is also raised in this vicinity.

Many of the cottage houses here are inhabited by fishermen, who supply the oil works and the farmers, but the catch for 1868 was light.

W. L. Sisson, a farmer on North Point, used about three hundred barrels of fish on his grass land and crops, for which he paid from twenty-five to thirty cents a barrel.

On the northeast corner of the Island are two coal mines that furnish cheap fuel to the farmers, an establishment for making copper, that has usually used ore from California and South America, but is now engaged on 500 tons from Vershire, Vt., and a fish-oil factory, where fish guano is sold at one cent a pound.

Mr. E. J. Anderson's Farm.

Toward the middle of the Island, on the west road, is the farm of E. J. Anderson, where we have an example of high farming, but not fancy farming. A farm of 130 acres has been thoroughly underdrained, and keeps this winter ten cows, eight oxen, one hundred sheep, and twenty horses. The cows are called natives, having been bought from droves, yet the practiced eye sees indications of various bloods. Two are polled, or hornless; others by fine hair and shape show good breeding, and their present condition, good keeping. They were pastured during the summer months on a ten acre lot that a few years ago was nearly worthless bog. It was underdrained and worked for a crop of corn and barley, and has for a few years past pastured one cow per acre; the cows, however, had sweet corn stalks, sown for soiling, in addition. This crop in 1867, by weighing and measuring, yielded twenty tons per acre. These cows had been fed this winter up to February 3, upon corn stalks. Butter is made in summer, and the calves, sired by a scrub bull, are fattened for veal. Under the barn floor are stored about 1000 bushels of French turnips, from which the fibrous roots were trimmed when stored. These turnips are mostly fed to the oxen that are constantly being fattened. The horses are kept at nine dollars per month, on hay, for the owners, who are city residents. The sheep are of different breeds,—some South Downs, and some that come from Brighton. To furnish mutton, fat wethers are as much needed as nice lambs. Mr. A. has freely expended money in permanent improvements, and has found it pays,—not only returning the money, but quite a surplus besides.

August Belmont's Villa.

The place of August Belmont, Esq., attracts the attention of the passer-by on account of the large trees and the rustic embellishments that adorn the grounds; but the stock would more interest the farmer. Here are one Guernsey, two Ayrshire, and three Alderney cows, and three or four two-year-old Alderney heifers raised by Mr. B., that are of good size and better filled out than young stock of this breed usually are. The cows of all the breeds were imported. At the head of this herd stands a four year old Alderney bull that, by estimate, would weigh 1600 pounds.

In an excellent milk-room, about 8x20 feet, on a double row of racks through the middle, sat the milk, which is skimmed when twenty-four hours old. Upon examination I found that the cream was nearly one-fourth of an inch thick on milk not over two inches in depth.

This place, I am told, was bought for fifteen thousand dollars, and might have been sold since for thirty thousand dollars. It contains seventy acres. I am more than ever convinced than in trees and well-arranged walks and grounds there is a positive value that will be appreciated more highly as the years pass by.

Mr. Leonard Brown's Farm and Stock.

Still farther east from Mr. Belmont's is the farm of Mr. Leonard Brown, which extends to the shore. He is an industrious and intelligent farmer, who has no fear of investing money in his business. He has sixteen good cows, some of which show strongly the Durham blood; being of large size and in good order. The number of his oxen varies from time to time,—usually three or four pairs. The neighbors say "Leonard Brown don't care what price he pays for cattle, if he takes a fancy to them, but *we* havn't money to throw away." He says, "I buy good cattle and make more money on a pair that has been fed some, than on a poor pair." His cattle are tied in the stable, as is the almost universal custom here, by the horns with a rope, with about three feet slack. They stand upon earth and not upon plank, and sand is used for bedding. The cattle eat from the barn floor, on both sides,—the oxen one side and cows the other, with stable doors wide enough to back in a cart to remove the manure or to leave the bedding.

The clear beach sand used by the farmers is sometimes drawn three miles. On the middle beach I saw at one time thirteen teams after sand and gravel. This shows the enterprise of the farmers in increasing their manure pile, and is a strong reminder that I and my Vermont neighbors would do well to work our deposits of muck for the same purpose.

Mr. Brown has a flock of forty breeding ewes, South Downs, from Thos. B. Buffum's stock. I find sheep of this blood on many farms from one end of the island to the other, and learn that they give universal satisfaction. He sold his lambs last summer for six dollars each, and many of his ewes bear twins. He has tried the cross of Cotswold buck upon some of these ewes and the half blood lambs seem to dress heavier than the full bloods. The buildings, walls and lots do credit to their owner.

Mr. Walker's Market Garden.

Near by the last places mentioned is a market gardener, Mr. Walker, who had at the time of my visit in February, 37,000 cabbage plants in cold frames for early marketing. They were started in the fall in open ground, and when large enough to transplant were set closely together in the frames, and are kept cool to prevent growing. They were to be set in the lot early in the spring, and mature in July. Mr. W. considers it very desirable to have stable manure freely mingled with the soil, and then use concentrated manure near the seed or plant. His compost heaps are of soil, fish guano, stable manures and night soil.

The southern part of the island is very good farming land and is generally well managed, and the ready market for all produce, from an egg to a fat ox, and the facilities for obtaining fertilizers from the city and the sea, make success in farming almost certain.

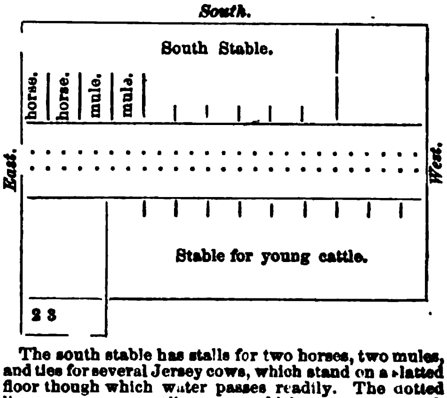
Col. Geo. E. Waring's Thorough Draining, Barn, Stock, &c.

There is a farm of sixty acres in charge of Col. Geo. E. Waring, Jr., author of Elements of Agriculture, and well known as a writer on draining, &c. This farm, I am told cost one hundred dollars per acre, and during 1868 it has been drained at an expense of another hundred dollars per acre. It is situated on an elevation that descends toward the west, with ample fall to afford sufficient surface drainage to satisfy most farmers. But it was poor, cold, wet land, and a great work has been done in putting down tile in ditches forty feet apart. After draining it was ploughed up and but little was raised last year.

I found among the neighboring farmers a disposition to criticise and almost to censure the expenditure involved in this improvement, and they ask "what will he do with the land?" For my part, I have faith in the tiles. With this large plot of smooth land now in one field, the partition walls having been removed, I can see that soiling can be extensively and conveniently carried on; all labor-saving machines can be used to advantage, and the soil will be dry and warm and yield up its stores of plant food whether the season is wet or dry.

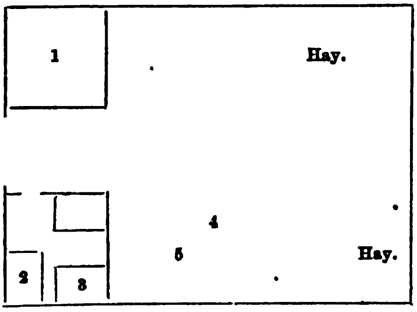
Then a spledid barn has been built with cellar for manure, the size of which I did not ascertain, but judge it to be 50x100 feet.

First story of Col. Waring's Barn.



The south stable has stalls for two horses, two mules, and ties for several Jersey cows, which stand on a slatted floor though which water passes readily. The dotted lines represent a railway on which runs a car with steamed food, &c. Fig. 2 represents the position of the steamer, and Fig. 3 a barrel for cooked food for swine.

Second story of Col. Waring's Barn.



The whole of this floor is level, with no posts or partitions, except those at the corners to prevent a free passage of a horse and cart. Fig 1 represents the water tank; 2, the steam box; 3, the meal chest; 4, the horse-power; 5, the straw cutter.

The first story is designed for stables, and the second story for storing forage. In this second, on the left hand as you enter, is a reservoir of water that is filled by a forcing pump, run by a wind-wheel, situated quite a distance out in the lot. From this reservoir, pipes conduct the water down to the stable where it is carried along in front of the cows, with a trough for each animal, from which it can sip at pleasure. In the right hand corner of the barn, as you enter, and opposite the reservoir, is a room for keeping meal and grain; it also contains a box, in which hay is steamed for the cattle. The steam boiler being in a small room attached to the barn, the steam is conveyed in pipes to the bottom of the feed box. The quality of the hay that was fed at the time of my visit, was poor; having cost only $12 per ton, or less than half the price of good hay; yet the cattle and horses ate it without waste. The feed was cut by horse power.

Steaming hay is another innovation that is looked upon with distrust by most farmers, yet it is evident to me that it is both reasonable and profitable, and can be conducted with so little expense that it will pay. But it will be adopted only by those who love their cattle and desire to do well by them, and to make the greatest profit from them. When one sees how simple is the apparatus necessary, many of the objections to steaming cattle food will appear less forcible.

The cattle chosen by Col. W. are not yet popular among the mass of farmers, but it may be that the same experience that proves draining and steaming profitable will place the Jersey cattle in advance of all others for a butter dairy. There are about twenty head of Jerseys here. Two of the cows cost nine hundred dollars. However well they may do at the pail they do not satisfy the eye, and should not be bred extensively where working oxen, beef and cheese are as desirable as butter.

In regard to draining, one old farmer said to me that "Horace Greeley told us in an address before the agricultural society that 'the farms ought to be drained to be worked to the greatest profit;'" "but," said my friend, "that is a foolish idea, because for two months in the summer we are now dried up as hard as a brick, and if we should dig ditches and lay tile, so as to let the warm air underneath, it would make the land so hot we could not raise anything."

Now I have walked the length of the island five times, by all its different roads, and several time across it, through the fields, through the pastures, where the turf had been broken up by the feet of cattle, where moss is growing rankly, where blackberry and other bushes are working in with poor pasture grasses, and I fully believe Horace Greeley was nearly right. Draining would make many acres of now unprofitable land, the most productive. The success of Messrs. Anderson and Waring will doubtless prove that warm air in the tiles will not be so disastrous as cold water in the soil.

Good, well-managed farms are so plenty near Newport that it would perhaps be hardly just to speak of any to the exclusion of others. One thousand dollars per acre have been offered for one farm of ninety acres. Another farm of 100 acres rents for seven dollars per acre, and the tenant pays the taxes; but the income from a flock of sheep of less than 100 pays the rent. Another man, speaking of sheep, said that he received over $30 each from several sheep he wintered. The sheep had twin lambs in the winter, and in June the three sold for nine dollars each—$27, leaving the fleece of six pounds of wool to make up the balance, It is evident that the value of land does not decide what kind of stock shall be kept. But all pays a profit according to the way it is managed.

Mr. Maitland's Villa, Deer, Breton Cattle, &c.

The place of R. L. Maitland, just north of the city of Newport, has many objects of interest, but few can be mentioned without making this article too long, I fear. The American deer are kept in an enclosure of perhaps an acre, surrounded by a picket fence ten feet high. This yard contains many spruce, locust and other trees, and a thick grove around the outside. There are now only twelve deer in the park, most of which are young animals. Eleven were shot a few weeks ago and taken to New York. Their food is corn, of which they consume half a bushel a day, eating it from troughs like sheep, and twice a week carrots or beets. They are not fed hay. They are as wild as common sheep. They breed freely. This herd was commenced a few years ago with two does and a buck. There are many amusements more costly and less useful than keeping a few of these beautiful animals.

The Breton cattle are represented here by a mature bull, *Tom Thumb*, three and one-half feet high, five and one-half feet in girth, color black, horns large. This race is the most diminutive specimen of the genus *Bos*. Of two nearly mature heifers that came of this black stock, one is red, the other light red and white,—an uncommon occurrence.

The Alderneys are more numerous. The oldest bull *Duke*, a fine large animal, is estimated to weigh 1700 pounds. *King Phillip* is younger and less in size, but good in the Alderney points, and valued at $1000. Several cows, valued at $500 or more each, and young cattle. But these are only a part of the cattle owned by Mr. M., as he has other farms in other places.

I did not learn the yield of butter from any single cow. The Alderneys, however, sustain their good reputation as dairy cows. The Bretons are smaller and smoother built than the Alderneys, and are valued for their milking qualities.

The stock of poultry here comprise Cochin China, Golden Polands, Silver Pheasants, Dorkings, turkeys, &c. And it may be worthy of mention that on nearly all the farms on the Island there are large flocks of poultry, which number in some cases, one hundred and fifty fowls; several flocks that I saw included some thirty turkeys, thirty geese, and twenty ducks. I did not see a flock of pure blooded hens of one kind; a mixture is usually kept. By many farmers, geese are considered very profitable. The kinds kept are the White Bremen, the Mountain or African and the real Wild Geese. A flock of wild geese can be seen near the South Portsmouth post-office. The head is small, neck small and black, back dark, belly light. The geese are not picked while they are alive by most of the farmers, but are kept for the profit of the goslings and the feathers and bodies when killed. I did not learn that the profit from eggs and goslings was larger than the income from live geese feathers which might be plucked three or four times during the summer. I saw one flock of October goslings, but it is unusual for geese to lay and hatch in the fall, and if they do so it is in consequence of good keeping, and not because they were not picked. The fowls generally seem to be well cared for, and are expected to yield a good profit, as the summer visitors at Newport wish the best of everything and pay prices in proportion.

The best poultry house I saw was at the farm of August Belmont, Esq. It cost one thousand dollars. It has four rooms as well finished as a dwelling house. The cupola on the roof is a beautiful pigeon house.

I have thus briefly referred to a few items in Rhode Island farming. A farmer from any section of the country would find pleasure and profit in observing the management of these farmers, whose success has given them the confidence, self-esteem, and business habits that usually accompany prosperity. But here, as elsewhere in New England, one cannot but notice and regret the absence of the sons of farmers. They have gone to trades or traffic, and left the old men to depend on hired help.

Irasburg, Vt., 1869. Z. E. JAMESON.

For the New England Farmer.

HALF A DOZEN FARMERS.

As parents love to speak of their children and tell of their prosperity, so I want to speak of a few individuals of my neighborhood family, and tell the world how they prosper. As I have been here only two years, I can of course go but little back of that period in my biographies.

I will begin at the south part of the town, and proceed northward. The first farm which I will mention was some few years ago all "run out." The man who now occupies it is a wide-awake chap, and is reaping double the produce, by leading the water from a pond and emptying it on his mowing field, and by looking well to his manure. He keeps his yard filled with muck, minds his own business, and is ready to do his neighbor a good turn, and is never behind in any enterprise.

A few rods north we find a neat little farm, carried on by a real six-foot Vermonter. His parents are growing old and somewhat infirm, and the young man has his own way. And well may he be trusted, you would think, if you were to see his wheat and other crops, or if you were to peep into his ash-house, filled as it was last autumn with good ashes from the lime pits at St. Albans, or near that town. He has enlarged his barn once, and must do it again immediately.

Going north of this place, some one hundred rods, I turn to the east a little, and find a smallish farm. The occupants consist of an aged mother, son, wife and two orphan children. They look and act as though a cloud had never passed over them, but had always lived in the cheerful sunshine. Love and good will beams in every countenance, with hearts as large as their bodies. Invoking God's blessing on this household, I bid them good-bye, and proceed still northward some fifty rods.

Here is a small house occupied by an aged couple, with the son and wife and two children. This farm is now carried on by said son, who has been in possession only two years. From the timber and lumber that has lately made its appearance on the premises, I am led to postpone further comments till I learn what it all means.

Moving on some twenty-five rods further, we find an old settler and his wife, aged almost eighty years, both smart and still enjoying life. A son and wife, with four children, make up the family. The young man, who now manages the farm, enlarged his barns a few years ago, and must soon build still larger. As he is one of the Town Fathers, it may not be expedient for me to enter into details, but as his fields produce "more than a plenty," he is not only willing that others should be fed and clothed and warmed, but ever ready to show that willingness by deeds as well as words.

Another twenty-five-rods' travel brings us to a farm occupied by a middle-aged man, wife and two boys. He has been on the farm some four years. His crops have about doubled. He, too, must build, or his stock and fodder must be left out doors. If you want to find him at his house in the morning, you must start early.

I might go on further, but I fear others may not be as much interested in my neighbors as I am myself.

These six farms embrace about 600 acres; from which were raised some 200 bushels of wheat, 300 of corn, 700 of oats, 700 of India wheat, 1500 bushels of potatoes; some 5000 pounds of maple sugar were made; about 200 tons of hay harvested; over $2000 worth sold from dairy and hog-yard, besides beef, poultry, &c., and on all these six farms I think there was not paid out for labor in the house and on the farms the amount of $125.

What think you? Can these chaps live? Do they make farming pay? If you still have doubts, come up and see the oxen, steers and fat sheep sent from this district, and mingle with the men that raised them.

Now if any one can make a better show of his neighborhood family, I will lay down my pen and say that, in waking up somebody, my object is accomplished. We want to wake up these lords of the soil. We wish to do them honor and we wish them to honor themselves. We want to hear from them. It is in them; they can drive a good bargain, and we think they can drive a smart pen.

And now, Mr. Editor, if you think this all bosh, throw it down, and take a glass of my home-made, four-years old pie-plant wine, and I will remain your well wisher,

V. BAKER.

Brookfield, Vt., 1869.

REMARKS.—This is a pleasant look at a pleasant, prosperous neighborhood of farmers. Scattered over the country, we believe there are many similar neighborhoods, and we unite with Mr. Baker in the hope that his statement will induce others to look about them to see if some other six farms may not furnish as good a record. We have had photographs of fancy farms about long enough. Now let us have pictures of real country home farms that support their owners and their families.

That bottle of wine found its way to an old lady who said it was a most excellent cordial,—just what she had been wanting all the spring.

For the New England Farmer.

TOO MUCH WORK.

It is said that more than one-fourth of the lunatics of the country are farmers and merchants, and among the reasons assigned for crazy farmers, are too much work and too little recreation. Now what is the remedy for this deplorable state of things?

For my own part I was slow to believe the above statement as applicable to us here in New England, notwithstanding our farmers are supposed to be the hardest working agriculturists of any in the country. But I know of many who work too hard for their real interests, though their keen Yankee sense seems bright and sharp as ever. The motto of these men is, "better to wear out than rust out." So it is; but what need of doing either? There is no real virtue in too much work. On the contrary, is it not a sin for one to tax unduly the strength and energy of a body so fearfully and wonderfully made.

Much is said in these latter days of beasts of draft and burden being overworked by merciless masters, and societies are specially organized to prevent such cruelty. May not some farmers be justly accused of being their own worst task-masters? And now that the busy season comes on apace, let me just sound my feeble note of warning.

In all our farming towns may be found some lazy, shiftless ones, as you may find drones in any hive. There are also able-bodied stragglers, begging victuals from door to door, who ought to be set at work sawing wood to sweat out their sheer laziness. But there is the opposite extreme—men growing prematurely old; nay, killing themselves with hard work. Some are trying to work themselves out of debt. Others are slaves of avarice,—the more they have the more they want. The former class would seem to merit our sympathy only, while the latter merit the condemnation we are wont to pronounce on the avaricious. But some men seem fated to be debtors, and the harder they struggle the deeper they sink in the mire, till the "bankrupt act" finally extricates them. They toil early and late, and work their teams till they give out, but they barely succeed in "keeping the wolf from the door," after all. Meanwhile hungry mouths multiply within doors, till they are in danger of being eaten out of house and home. All their surplus remaining after feeding and clothing their families, is eaten up by relentless interest on borrowed money, till they must sell out and emigrate, or keep toiling on up-hill till death comes at last to their relief.

Some have "too many irons in the fire;" and, between them all, they must needs keep blowing and pounding away till they get their fingers burnt. Always ready to run here and there, sparing neither man nor beast, until they prematurely run their race, and get no credit from survivors for all their manifold labors and favors.

But are there not more who make drudges of themselves, just to make money? Nay, worse, who lay themselves, body and soul, on the altar of Mammon. Of course this statement is not limited to the farmer, nor is the imputation of too much work. Yet in the case of the farmer such drudgery seems more noticeable.

Now, why not slack a little, and not work yourselves to death to find, when all is over, that "as you brought nothing with you into the world, so you can carry nothing out?" It is a relief to know that some have taken the hint, perhaps from bitter experience of sickness and infirmity, brought on by wilful disregard of the laws of health; and that others have finally yielded to the remonstrance of wife and daughters who have plead with them, by the love they bear them, not to work so hard, and give a little more time to those small, sweet courtesies and charities which they had once ignored.

It is true the farmer cannot always keep within bounds, in this matter of work. There will come emergencies in harvest time when he must toil early and late; times when he must make the most of brief intervals of fair weather, and secure his crops at any hazard. And sometimes he has so much crowded into one season, besides his regular farm work, that he must keep all hands toiling to their utmost to get through. But is it not often the case that work falls behindhand or is crowded for want of some system and wise forethought? Worst of all, some old-fashioned farmers will persist in taking the hardest way, and plodding on independent of this and that labor-saving machine which would lighten half their load, and give them a new lease of life. In doors and out, it is "work, work, work," and when they are dead, the property, so hardly earned, may go to make only idlers and spendthrifts! W. E. B.

Longmeadow, Mass., June 1869.

For the New England Farmer.

PEAT AS A FERTILIZER.—A QUESTION.

On a large portion of the farms in New England may be found a bed of peat or muck, in store for the redemption of the upland soil: In itself alone, as found, this peat exerts no fertilizing power. Though consisting mainly of vegetable matter,—decaying trees, shrubs and grasses,—the tannic acid it contains preserves it from decomposition and sometimes actually prevents its favorable action on the soil with which it is incorporated. Plant an apple or a pear tree in pure peat, and it dies. The tannic acid poisons many kinds of cereal and leguminous plants, and hence some farmers have become prejudiced against the use of it. But peat itself is mainly vegetable fibre,—geine, humus,—the natural food of plants and trees. The very small per cent. of tannic acid it contains renders it obnoxious. Eliminate this, and then we have in peat one of the very best fertilizers nature holds in store for us.

But what are the best means of doing it? This is an important question, and whoever rightly answers it will do more for agriculture than ever has been done by any Liebig, Burns or Davy. Dr. Dana, to be sure, did something. His "Muck Manual" should be in the hands of every farmer. But much more must be done. An alkali destroys an acid. But what is the cheapest alkali? What is the best mode of applying it? Here is the problem. One load of peat now good for nothing, how shall I best, cheapest, and quickest change it to a load of good manure? What are the easiest, readiest, and surest steps? Good questions these for the advanced class in our new agricultural college.

"Combine it," says Dr. Dana, "after it has felt the frost of winter, with one half a load of barn manure." This will do it; but time is taken and the barn manure is soon exhausted. "Use night soil;" but there is no city near. "Take ashes;" but they are twenty-five cents per bushel. "Spent ashes, then;" but the alkali,—the very thing you want,—is taken out of them. "Well, soda;" ah, but that costs money. "Liquid manure;" but the supply is limited. "Then lime;" this, too, costs money and is slow in action.

We have tested all these agents and we think the first the best, especially when the swine have had the range of the barn cellar; but we believe there is a *better* way, which some enlightened chemist will, ere long, reveal to us. As nature, ever provident and prospective in her plans, has compensated for the sterility of our soils by storing away in thousands and thousands of acres of our low lands the *materiel* for the recuperation of our uplands, and as this is the day of chemical emprise and development, it is but reasonable to suppose that the key to the treasure will soon be found. W. WALBRIDGE.

Billerica, Mass., Feb., 1869.

For the New England Farmer.

"CABBAGE WORM."

MR. EDITOR:—In your last issue, Mr. Towles of Alburgh, Vt., complains that his cabbages have all been destroyed "by a worm formed by an egg or nit of a white butterfly deposited in the head of the cabbage," and wishes to know what can be done to stop its ravages.

Before his question can be properly answered, we must inquire whether he knows or only thinks the butterfly to be the parent of the worm. If it is really so, I suspect this to be a recent, most unfortunate importation from England. Several years ago, a butterfly called *Pieris rapæ*, which has sometimes done great damage in Europe, was discovered about Quebec and has since spread into northern Maine and Vermont. I have not yet heard of its doing any serious injury, but it certainly will as its rapid increase proves its accommodation to the New World. This pest was not needed, for we have now a very near relative first described in your paper, by Dr. Harris as long ago as 1829 (see NEW ENGLAND FARMER, old series, vol. 7, p. 402) under the the name of *Pieris oleracea*. This insect has sometimes plundered our kitchen gardens,—turnips being apparently its favorite food. In the cabbage butterfly, some distinct black spots may be seen on the upper surface of the front wings; in the turnip butterfly, these wings are pure white; both species produce two broods a year,—one in May and the other in July; the butterflies are of feeble flight and can easily be taken in a scoop net and destroyed on the spot; this is perhaps the best way of keeping them in check.

I should be glad to receive from Mr. Towles specimens of the butterfly and worm which have troubled him, and as full an account as possible of the nature and extent of its ravages. You will see by the circular I send that I am preparing an extensive work on New England butterflies, and information or specimens of the insects in any of their stages, will be acceptable from every quarter. I hope, in return, that agriculturists may find something in my work to assist them. Very truly yours,

SAMUEL H. SCUDDER.

Boston, May 31, 1869.

COLORING CHEESE.—Fashion governs the style and color not only of our clothing and our dwellings, but even of our food. As one passes through our market, men and boys may be seen dressing up in "Boston style" boxes of strawberries that are received from the South. The best berries must be placed on the top of the box in a neat manner to sell well. So with cheese, there is a fashionable color, without which it will not bring the highest price. In a late article upon this subject in the *Utica Herald*, Mr. X. A. Willard, although personally objecting to color, says the market demands a rich, even color and will not be satisfied without it. As a matter of dollars and cents, not of principle or taste, he advises manufacturers to keep up the color. He has never heard of a lot of cheese being condemned because it was too nicely colored, but has heard of complaints and losses because cheese was too pale. He says: "We have reports from some ten or a dozen factories in Vermont. They have started well, and promise a fine make for the season. But they are making their cheese *too pale*. They must pay more attention to color, if they would command the highest figures."

TIME OF CUTTING HAY.

JUNE and July are the great haying months with us in New England. In many sections the experience of farmers during the past winter has afforded an expensive argument in favor of the importance of this crop. We suppose that the barns of New England have not been as empty for many years as they are this spring. We see it stated that Levi Snow of Dover, Vt., has been feeding out hay this spring that has been in the barn thirty-four years, and it came out green, bright and sound. Cattle ate it as well, and it was as good in every respect, as hay grown last summer. It is important then that this harvest should be secured in good order. And although we discoursed last week at some length on the best time and manner of securing this crop, we think our readers will find something of interest in the following brief abstract of the statements made at a discussion of the subject of haying by the Massachusetts Board of Agriculture during its session at Amherst, last December.

Mr. Hyde of Lee, and Dr. Fisher of Fitchburg, stated opinions and facts of much importance, that cannot fail to meet the approbation of all sensible and observing men. The more completely hay retains the properties of grass, the better it is. The sugar and starch in the juices of grass, constitute its most important elements. Its nutritive value depends upon the amount of sugar and starch it contains. As the seed stalk grows up and the seed ripens, the sugar and starch are converted into woody fibre, which can yield no nutriment unless it is reconverted in the stomach of the animal into starch and sugar. The grass blade—the leaf—is its most nutritive part, and when the blade is most fully developed, and in its most succulent state then the grass is in its best condition, and contains the greatest amount of nutriment, and should be immediately cut and cured. The leaves are reservoirs in which sugar and starch are accumulated for the use of the stalk in forming the seed—and when the seed vessels are formed, the sugar and starch are rapidly drawn from the leaf vessels to be converted into the substance of the seed.

Whether the hay is to be fed to cows in milk or horses at work, it is much better if cut early than if cut late. Woody fibre affords but little nutriment, and if our animals are to obtain their living from it in the winter we had better turn them into the woods and let them browse, than to be at the expense of laying up wood for them in our barns.

Dr. Fisher said, "I cut my herdsgrass between the 13th of June and the 3d of July. I cut it before it had shown a blossom, and I should be willing to put that hay before cattle, by the side of any other hay, and if they did not choose mine in preference to any other, I should be very much mistaken."

Then if the crop cut thus early is not as heavy as it would be cut two or three weeks later, you will get a second crop, not of rowen, but of hay of good quality, dried grass, as valuable in proportion to its weight, as the first crop. What we want as food for cattle and horses, is *dried grass*, not bushes, coarse or fine. When seed stalks have formed on grass, cattle will not eat them, if they can help it. We find them cropping the short green blades near the ground, and avoiding the full grown woody stalks, and they would do so in the winter if they could separate the blades from the stalks in the hay.

Says Dr. Fisher, "I have two horses now which have been kept for some years upon six quarts of meal, and pretty late cut hay. It required that amount to keep them in condition. I now give them only two quarts of meal (and have given them only that quantity for the last year and a half) in combination with hay that I cut early, and they are in better condition than they were two, three or four years ago. I consider them as good arguments as I can produce. They certainly thrive better on two quarts of meal and the hay they get now, than they did formerly upon six quarts of meal and late cut hay."

Says Mr. Hyde, "The grass of Massachusetts is probably cut a fortnight ealier than it was ten years ago. Towards this result the mowing machine has greatly contributed, as it enables us to finish the hay harvest with great dispatch.

"The true principle of haying, we think, is to secure the hay at a time when we can harvest the largest amount that shall be like grass in its perfect state; and this we can do when the grass has attained its growth, and before the starch, sugar and gluten of the plant have gone to the formation of seed, or been converted into woody fibre. The starch and other nutritious compounds are on the increase as long as the plant grows; but with blossoming, growth ceases, and now is the time with the least labor to secure the greatest amount of forage in its best condition."

This is the true theory; and when the practice shall be fully up to the theory, we think the hay crop of New England will be worth at least twenty-five per cent. more than it is now. Another advantage, too, we think would result. The cows would yield a full flow of milk with half the corn meal and oil meal which they now require, and which, by their unnatural stimulation, keep them in a feverish condition and produce frequent abortions, unhealthy states of the milk vessels, and various other forms of disease, which render them short lived and greatly diminish the profits of the dairy. Were the cows fed on *well cured grass* they would require but little more grain in winter than in summer, just enough to make up for the difference in temperature; they would be more healthy, and of course their milk would be more healthy. Much of it now is fit for anything else rather than for human food. In his lecture upon the dairy, Mr. Willard of New York said, "If you have any diseased cows, do not mix the milk of those animals with the milk out of which you are going to make your butter and cheese, but throw it to the pigs."

Prof. Gamgee said. "Don't throw it to the pigs." And yet, how much such milk do we give to the children!

Experimental Farms.—The French Emperor has nine example farms in Gascony, eight in Champagne, three in Cologne, one in Limceusin and one in Italy. These twenty-two farms pay him on an average four per cent. on the capital invested.

A TENANT FARMER.

A few days since one of the Editors of the Farmer had the pleasure of receiving a call from some relatives whom he had not met for forty-four years. The strange work which this lapse of time had made with boys and girls who were once playmates, is a matter in which the public has no interest. But as our friends are farmers who, commencing with hired land, have paid for a large farm from the profits of farming, we claim that a brief sketch of their agricultural history may be considered as public property, and believe it will be interesting to our readers, and particularly to that portion of them who are now young, and are balancing the probabilities of being able to pay for a good farm by farming. We will, therefore, at the outset, introduce our friends as Mr. and Mrs. John Balis of Benson, Rutland county, Vt.

On their marriage, the estate of the husband and the dowry of the wife, consisted of two pairs of willing hands, habits of industry, and "great expectations" of success,—rather an old-fashioned, but after all not a bad "setting out." Having caught his bird, but not having a cage of his own, Mr. Balis found shelter in his father's house, and entered into partnership with him in the management of his farm of 150 acres in the town of Hubbardston, Vt., adjoining that of his present residence. Here he remained until twenty-nine years of age.

On a mutual division of the increased stock and land, Mr. Balis' portion was appraised at about $1600. But as yet he had no house,—the buildings all belonging to the old homestead, which was retained by his father. For a year or two, therefore, he lived in a hired house, and carried on some land on shares, in addition to the management of his own lot. Eventually, however, he purchased additional land with buildings, and was no longer a *tenant*.

He turned his attention early to raising sheep as a leading feature of his farm management, though he has been quite successful in wheat-growing. From the avails of his crops he was enabled to buy more land. One of the most lucky of his purchases, he informed us, was a lot of wild land for $1350, from which he sold, in one year, wood and wheat to the amount of $1500, over and above all expenses of labor, &c. But such "good strikes" were not often made. Mainly by small gains and small savings, he now finds himself, with his two sons, in possession of fourteen hundred acres of land, in a tolerably compact form, in the rich valley of Lake Champlain, on which there are in all six dwelling houses, twelve large and several small barns, with sheds or lean-tos sufficient for 1200 sheep, and stabling for thirty horses and cattle; with which amount of stock he entered the past winter. During the season he has, however, lost some two hundred sheep—a very unusual mortality for him. His sheep are grade merinos, and average from four and a half to five pounds a fleece.

His sheep sheds or lean-tos are built the whole length of the barn to which they are attached, and connect with the cellar under the barn, in which the sheep are fed, and where they find a warm place in cold weather.

He now mows over about 400 acres, which average about one ton per acre, and we understood him to say that he has this year full fifty tons more than his stock required.

From three to six acres are sown to wheat each year. This year he has sown six bushels of wheat, and as usual, on land on which corn grew the previous year. It now promises a good crop. Last spring he sowed six bushels and harvested one hundred bushels. The year before, he sowed three and a half bushels and harvested seventy-five. Three years ago he sowed his wheat on low, flat land, and in consequence of unusually wet weather the crop was a failure. The ground was well prepared and with a favorable season, he anticipated a good crop. Have your ground in good order, he says, and sow as early as possible, say from the 20th of April to the 10th of May, on good rich soil, and you need not fail once in ten years in raising all the wheat needed in the family.

He raises from six to ten acres of corn a year, which yield from fifty to seventy-five bushels of shelled corn per acre. He applies about fifty loads of manure, and that leaves the land in fine condition for wheat.

Of potatoes, he plants from four to eight acres, usually on sward land; and generally has about fifteen acres in oats.

For corn, he generally ploughs the manure in, and plants two years, and "stocks down" with wheat or oats. Mows from two to four years, and obtains good crops of grain and grass. For potatoes he takes sward land; sometimes, but not as a general thing, growing two crops, then manures well, sows oats and seeds down.

Such land as he does not wish to plough up, he top dresses, preferring to do this immediately after haying when possible, as the fall rains dissolve the manure and start up the grass; thus making a good crop more sure the next season, than if it were applied in the spring. If applied very early in the spring, say in March, and if the season is not too dry, it does well; but if the season is dry it has less effect. He uses no manure except that made on the farm.

He has built some 1200 to 1500 rods of cedar rail fence, the material for which was drawn ten miles, and some 400 to 500 rods of pine stump fence, dug from his own land.

Mr. Balis informed us that in ordinary seasons, and with ordinary health and ordinary expenses, he could support his family without much encroachment on the sales of his wool, which must certainly be regarded as pretty good evidence that there is profit in farming in Lake Champlain Valley, if no where else in New England.

He informed us that friends in Illinois, near Chicago, have repeatedly urged him to sell his farm in Vermont and try the West. He has visited there occasionally, having just returned from a trip through Michigan to Illinois, at the time of our interview. We give the result of his observation, and his conclusions as to the comparative advantages of Vermont and Illinois, in his own words:—

"It is generally thought," he said, "that the West has great advantages over New England for farming. I made considerable inquiry out there about farms, crops, the price of land, &c., but I cannot see wherein they have the advantages that are generally conceded to them by farmers in New England. In the section I visited, improved farms are held at $50 to $150 per acre, with not near as good buildings as we have here in this section of Vermont on farms that can be bought to-day at from $20 to $50 per acre, with plenty of water of the best quality, good roads, good schools and good improvements generally.

"Then again, Western farmers do not raise as much per acre of most kinds of grain as we do. It is true that their land is worked more easily than ours, but it is less favorable to the production of grass. Hence they plough more land than we do, and consequently have less pasturage. Most of the stock that I saw there this spring was poor. This may not be the case in other sections, and probably is not among farmers who make a business of fattening cattle.

"When I left home I felt rather discouraged by my unusually large loss of sheep during the past winter. But I found that the mortality among the flocks in Illinois had been so much greater than with me, that my loss seemed trifling in comparison. Individual farmers, in the vicinity where I visited, who commenced the winter with from 400 to 500 sheep have lost nearly their entire flocks, from the scab and grub in the head, as is generally supposed. Wool growers both East and West are becoming much disheartened.

"I hope that young farmers who are thinking about going West will look at all these things thoughtfully before they start. 'Distance may lend enchantment to the view,' but it may cost something to learn that 'all is not gold that glitters.'"

In reply to our question whether the advance in the price of land or other causes had made the chances for success on the part of young men who are now beginning life without capital less favorable than they were when he began business for himself, Mr. Balis remarked that he thought not; he believed that so many young people are now leaving the farm for other pursuits that the opportunities for industrious, reliable young men who are contented to remain on the farm, were never as good as now; and he said that he knew of fine openings in his own neighborhood, and elsewhere, for those who are willing to work and to live economically.

POTATO BUGS.

The losses sustained by farmers in consequence of bugs and insects appear to be increasing as the country grows older. One result of these losses must be a more general study of the habits and character of these insects. Inquiries or complaints are often made of *the* grain weevil, *the* cut worm, *the* potato bug, &c., while there are often a great variety of these insects. A long article was published last year in the *American Entomologist*, an excellent illustrated monthly publication, at one dollar per year, on potato bugs, in which ten different bugs were described, with cuts of each. The *Utica Herald* gives the main facts of that article in the following brief abstract:—

In the United States there are no less than ten distinct species of bugs that prey upon the potato plant; and many of these ten species are confined within certain geographical limits. The habits and history of several of these varieties vary as widely as does that of the hog from the horse. Some attack the potato in both the larva and the perfect or winged state; others in the winged or perfect state alone, and yet others in the larva state alone. Some of these insects raise but one brood of young every year, while three of them raise two or three broods; each generated by females belonging to the preceding brood.

Three of the ten feed externally upon the leaves and tender stems, while two burrow, like a borer, exclusively in the larger stalks. Almost every one of these has its peculiar insect enemies; and a mode of attack which will prove successful with some of them, will very often turn out worthless when employed against others. And here it occurs to us to suggest that when a writer or editor talks of the potato bug, he give its scientific name, to avoid confusion. This failure of writers to give a name by which all can distinguish the individual species—as well of insects as varieties in plants—is the cause of much misunderstanding and prolonged discussion.

We are enabled in this abstract to give only the names and present some of the more common characteristics of the different families of these pests.

First we will take the "Stalk Borer." (*Gortyna Nortila Garence.*) Its larva is not peculiar to the potato, as it also infests tomato, dahlia, aster, and other garden flower-stalks. The larva leaves the stalk the latter part of July, descends a little below the surface of the earth, where it changes in about three days into the chrysalis state, and emerges as a perfect moth from the last of August to the middle of September.

The potato stalk weevil (*Baridus trinotatus*), according to Dr. Harris, is a more peculiarly southern species,—ranging from the Middle States south, and unknown in New England. In some places it utterly ruins the crops. So far as known it infests only the potato plant.

The potato, or tomato worm (*Sphinx maculata,*) is well known to tobacco growers as the tobacco worm, and moth, and needs nothing further explanatory.

The striped Blister beetle (*Lytta vitata*) follows. Four varieties are mentioned as belonging to the Lytta family. They are only destructive of the foliage of the plant in their perfect winged state, living and feeding on various roots, under ground, in their larva state. They belong to the same family as the Spanish fly, and will raise just as good blisters as that does, and are equally poisonous taken internally in large doses. The striped blister beetle is almost exclusively a southern species, occuring some years very abundantly. This beetle is said to take all other varieties of potatoes in preference to the Peachblow, and may be destroyed by driving them off the vines with a bush, placing hay or straw between the rows in which they will seek to hide, and burning them.

We have next the Ash-gray blister beetle, (*Lytta Cinerea.*) It is found more commonly in the northern part of the northern States. It attacks not only the potato, but honey locust, and English or Windsor beans. It has been known to swarm upon every apple tree of a small orchard in northern Illinois, eating the foliage and gnawing the young apples.

Next is the Black Rat blister beetle, (*Lytta Murita,*) which is often mistaken for the black blister beetle, (*Lytta Afrata*) from which it differs only in having four raised lines placed lengthwise upon each wing-case, and by the two first joints of the antennæ being greatly dilated and lengthened in the males.

The Margined blister beetle, (*Lytta Marginata*) is a species easily recognized by its general black color, and the narrow ash-gray edging to its wing. It usually feeds on cercertain wild plants; but in Wisconsin and Illinois it has been known to feed on the potato vine, and been taken in company with the striped blister beetle, and is known to be increasing on the potato.

These are only a portion of the many varieties of "potato bugs," but the list is believed to embrace the most injurious of them. A knowledge of these varieties, of their manner of breeding, and of their habits, will aid materially in furnishing data which shall be of service in planning more efficient means for their extermination.

Corn or Witch Grass Land —The land where I raise my corn is full of witch-grass. I plough in August six inches deep, harrow two or three times in the fall when it is dry; cross plough late in the fall two inches deeper, and let it lay up to the action of the frost during the winter; harrow down in the spring; plough ten inches deep; harrow; furrow deep; dress with a shovelful of barn dressing and a spoonful of phosphate of lime to the hill. I have killed the witch-grass so that it takes less time to cultivate the crop properly than it would with one ploughing. The land is in fine tilth, stands the drought better and produces a much better crop; the ground is in better order for grain, and grass seed catches better and is not choked out by the roots of the witch-grass. I planted ten acres of corn last year on interval, with beans between the hills, and raised three hundred and sixty-two bushels of ears—handsome, sound corn as I ever saw.—*Louis Simpson, 2d, of Brunswick, in Maine Farmer.*

RAISE THE BEST CALVES.

We find the following article by our valued correspondent, A. W. Cheever, Esq., of Sheldonville, Mass., in the *Germantown Telegraph:*—

I do not propose to have all the calves raised, but with the present high prices of good cows, it seems injudicious to let good heifer calves go to the butcher. I know a twenty-dollar bill is a temptation to let a good calf go. I could get that price for one now on hand at eight weeks old. I shall not sell her. She drinks well and eats very like an ox. I bought her at four weeks old, let her go without one meal to give her an appetite, then carried her some new milk in a clean pail, wet my finger in the milk, put it in her mouth and gradually coaxed her head down to the milk. She soon learned where the milk came from, and in a few days would drink as well as I could wish. She now has what sweet skimmed milk she will drink, twice a day. It is warmed nearly to blood-heat. Cold milk is sure to give the scours to a young calf. I intend to feed her milk several months and keep her constantly growing and healthy. I give her a lock of hay when I feed the other cattle, and give her some exercise in the yard with the dry cows.

I have raised all my best heifer calves for the last five years, and am getting a good stock of well-behaved cows, much more quiet and orderly than those I formerly picked up in the neighborhood.

I find my heifers are as large at two years as most of those I see are at three. I have them come in about two years. But to have heifers that you will be proud to show your friends, you must not let them get any check in their growth. It will not do to let them out to pasture to shift for themselves in the hot suns of summer or the cold storms of autumn. They ought to have milk till six months old, and a little meal may be added gradually. They ought to learn to eat meal while young, say before they are a year old, but I do not believe in raising calves on a grain or porridge diet. Milk is their natural food, and I believe they should be raised chiefly on butter farms.

A cow that is poor for butter-making, but good for the cheese dairy, it is well-known, has fat calves. The casein of milk is the part that gives the most nourishment to man or beast.

I know there is an idea quite common among some farmers and others that skimmed milk will not fat a calf; and many experiments seem to favor the idea. But I think the failures have been owing to feeding it carelessly; either sour, too cold or too hot.

I know *my* calves are in demand for veal, and are pronounced extra when fed on clean skimmed milk.

We should not forget to give calves a clean dry bed; and they should be treated kindly at all times. Then quiet, orderly cows will be the result.

AGRICULTURAL ITEMS.

—There were shipped from Vergennes, Vt., between March 1st, 1868, and March 1st, 1869, 278,689 pounds of butter, or 54,000 pounds less than the previous year.

—It is an excellent plan to keep a lump of common chalk in the feeding trough constantly, after the calves are a month old, this will correct the acidity of the stomach and have a tendency to keep them in a healthy state.

—One day this spring, Willie Brewster, of Irasburgh, Vt., a lad sixteen years old, harrowed with a span of horses eleven acres of ground, and after putting up his team went one mile through mud and water on foot after the cows, drove them home and milked nine of them. A pretty good day's work for a boy.

—The sunflower is very useful. Its leaves soon become large enough to be used as a covering for young cabbage and tomato plants. Its stem affords an excellent hop or bean pole, and when dead in the fall, if cut up and kept dry, it answers well for kindling wood. The leaves can be plucked off through the summer without injury to the plant, and dried for fodder, or fed green to milk cows or horses. Its seeds make a fine oil, or chicken feed. It is said to be an absorbent of malaria, and is often cultivated as a preventive of fevers near dwellings that occupy low places.

—Mr. Quinn, who was formerly farm manager for Prof. Mapes, advises market gardeners to raise most of their seeds. In an article in the *Hearth and Home* he says he adopted the plan many years ago of raising the larger part of the seeds he needs, and is well satisfied it is the best and most economical plan. For this purpose the best specimens raised should be selected and used. A knowledge of certain laws of hybridization is necessary, but he says, he considers it less difficult to raise a crop of cabbage or onion seed, than to ensure the successful heading of the cabbages or the perfection of the onion bulbs.

EXTRACTS AND REPLIES.

LAMBS POISONED BY LAUREL.

Mr. W. F. Webster, of Warwick, Mass., informs us that he has been much troubled by sickness and loss of lambs in consequence of being poisoned by laurel. Last spring he tried in a desperate case the application of onions as recommended in the Farmer. He had a lamb so near dead that it scarcely breathed, and could no more hold up its head as it lay on the ground, when raised by hand, than if actually dead. He roasted an onion in hot ashes, cut it, and on raising up the fore leg cut a slit into the skin or integument connecting it with the body and put in the half of the onion on each side, at the same time giving the lamb an injection. The lamb immediately revived. The onions were changed for fresh ones and the lamb speedily recovered. If taken in season he has found about a wine glass of old cider an excellent medicine. Castor oil recommended by H. C. Merriam, if given in season, we believe is one of the most convenient and efficient remedies known.

TOBACCO CULTURE.

In my perambulations amongst the tobacco growers of this region, I notice quite a difference in the state of forwardness of the plants in the different seed beds, even where there is great similarity of soil and location, of manure and glass used, of care taken to sprout the seed before sowing it in the beds, and where all these operations are performed at the same time and with the same anxiety to secure early plants. Now what is the reason that Mr. A. gets plants large enough to set in May, while Mr. B. cannot get them fit to do so before some two weeks later?

This is a question of more importance to the grower than at first would be supposed. Two weeks may materially affect the crop in value. We are in the habit of transplanting our plants from the seed bed, from the first week in June to the first of July, but ordinarily the last set, if they do not get pinched by early frosts, turn out a much smaller leaf, and of inferior quality, generally thick, heavy, unripe, and so can never make a good burning tobacco. These are among the important results of early or late plants. How are we to go to work to obtain early, vigorous plants. Can it be done by a proper construction of our seed beds? We know a carpenter who owns and works a small farm. He is an excellent workman at his trade, famous for *close joints*. Well, he made a hot bed, and the boards were put together with as much precision as he would fit the joints to a staircase. The result was that he roasted his seed. Now if he had set his farm hands to work, with an axe, hammer and wood-saw, he would have obviated that difficulty. He is over nice. His neighbor gets plants early always, and not over four rods distant. Another sows on to his bed Peruvian guano in such quantities that the plants are burned up by it, and only a few make out to live through and get large enough to transplant until the season has so far advanced that they are of no avail. Another uses fish guano, and that, too, kills them We have seen a bed recently with not a plant upon it, all killed by the fish guano. Now, how shall we manage to secure early plants? This is the all important question.

One neighbor who generally succeeds, says he ploughs in all the manure he can conveniently in the early fall, and ploughs at least twice more, before the ground freezes up. In the spring he rakes in "Russell Coe's superphosphate." This year he was setting plants in May. We think the seed beds should be ploughed as often as once a month after taking off the plants, and the manure applied as early as July, so that the wild seed in the ground and manure may have a chance to germinate, and be destroyed by the ploughing, before sowing the beds. This is our method; who has a better? LATAIKA.

Whately, Mass., May 31, 1869.

SEDIMENT FROM SODA ASH.

I have something like one ton and a half of the sediment of soda ash used in scouring cloth. Can you inform me of its manurial value, and the proper way of preparing it for use on crops or fruit trees. A. B.

May 16, 1869.

REMARKS.—As we were not able to answer the above,—not knowing whether the sediment was gravel stones or something else,—we submitted the query to Dr. Nichols, editor of the *Boston Journal of Chemistry*, thinking it probable that, in the course of his business as a manufacturing chemist, or in his extensive experiments with "doctor's stuff," in making a poor farm in Essex county rich without manure, he had had occasion to make a chemical examination of the substance alluded to. In reply, he informs us that he has never made such examination, and that he does not know what the sediment is. But he presumes, on general principles, that it may be of value to soils. Soda, however, he remarks, we all know is not as valuable as potash and potash salts.

WHEAT CROPS IN MAINE AND VERMONT.

In your paper of April 10, I noticed a statement by Mr. M. E. Rice of Stetson, Me., that he raised 114 bushels Scotch Fife wheat from 5½ acres, using 11 bushels seed, and sowed 1200 pounds of superphosphate of lime on the land. I raised on seven rods less than two acres, 53 bushels of Bald wheat from four bushels of seed. In the fall I spread twenty one-horse loads of muck manure to the acre, sowed April 28, and harvested the last of July. The land the previous year was cropped with oats, without manure. Our rich Vermont hills, with a sprinkling of muck manure, will give us thirty bushels per acre. Try again Mr. Rice.

Craftsbury, Vt., May 15, 1869. E. HATCH.

THE FLEA BUG.

In my communication about the cabbage weevil there is one mistake. I intended to have said the cabbage weevil is the offspring of a fly, as is the onion *worm*, not "maggot." They are two distinct species of insects.

"S. E.'s" inquiry as to what will destroy the flea bug is too late for this season. I suppose he has reference to the small black bug that hops like a flea. They have never troubled my onions. In years past they destroyed my cabbage and summer savory, and eat my vines, but do not trouble me now. They are a very sensitive insect and will not stay where there is an offensive odor. One morning last season I found my vines covered with flea bugs. Having a tub of liquid hen manure in the garden, I put some of it around each hill, and the second day after applied it again. The bugs all left for a patch of potatoes close by. There were thousands of them, but they never again came near the vines. Now if "S. E." will apply hen manure on one side of his onion rows, near, but not directly on the onions just as they are breaking the ground, or a little before, and two days after repeat the application, the bugs will leave. He may have to use it the third time, but a faithful application of it will save his onions.

Chelsea, Vt., June 4, 1869. O. HOYT.

GIRLS LEAVING THE FARM.

In the FARMER of April 3, the girls are accused of leaving home or the farm to seek other employment, as the farm is not fashionable enough for them. That some may have left, I would not deny, but to charge them all with desertion is hardly just. I have in my mind, in not a very wide circle of acquaintance, at least five young ladies, over sixteen years of age, who most faithfully assist in carrying on the indoor operations of the farm, and if occasion requires will don the sunbonnet for a job in the garden, field or barn; and some of them I happen to know are readers of your paper. The girls are not all gone. BATCH.

Wallingford, Vt., May 10, 1869.

PRACTICAL FARMING.—LOSS OF SHEEP.

I enclose $2.50 for your paper another year, hoping that it may long continue, and that more be said about experience in farming by those who are better acquainted with farming than myself. I wish that more farmers would tell how to prepare land for different kinds of crops, &c. I wish to inquire particularly what it is that ails the sheep this spring. I have lost two. They died very suddenly. Whether it is the grub in the head or something else, I do not know. Some of my neighbors have lost more or less in about the same way. E. A. MOORE.

Weston, Vt., May, 1869.

REMARKS.—There has been unusual mortality among sheep in New England and at the West the past winter, and we solicit the experience and opinions of flock-masters as to the cause. Do not wait till you know all about it, but let us know what you have found out.

RAGGED ROBBIN—*Lichnis Flos-cuculi.*

In the FARMER Nov. 30, 1868, I find it said that the well-known Ragged Robin is one variety of Lychnis. I would like to inquire which variety it is, and whether it can be grown from seed?

Royalton, Vt., May 20, 1869. SUB.

REMARKS.—The variety is *Flos-cuculi*. Mr. Breck says in his Book of Flowers that "it is propagated by divisions of the root." We do not find the seed mentioned in Mr. Washburn's catalogue. Mr. Breck says "the double variety is deservedly esteemed, is very ornamental, and flourishes in any common garden soil."

THE CROWS.

Mr. Thomas M. Brewer, in the *Atlantic*, takes strong ground in defence of the crows. He thinks *agriculture is going to the bugs*, in consequence of our "murderous warfare" upon the crows, by which the "harmonies of nature" are sadly disturbed. We are disposed to think that the pulling up of an acre or two of corn in a cold late spring, disturbs the harmony of nature somewhat also; at any rate, we are sure that it disturbs the economy of the farm. It is bad enough to have to fight the cut worms, without fighting the crows. As to the crows helping us to get rid of the cut worms, that is all "bosh." A little salt and copperas made into a brine, to steep the seed corn in, will do much better. As a dose for the "black ralcals" we recommend twenty grains of strychnine in a gill of warm water, with a pint of corn soaked in it over night. Scatter this on the field. It is cheaper to feed crows in this way than on the corn you have taken pains to plant. J. R.

Concord, Mass., May 3, 1869.

POLLEN.—THE SEASON IN WINDSOR COUNTY, VT.

The weather has been very dry here for some ten days until yesterday, when we had a heavy shower; and after it was over, I noticed a peculiar scum or what seemed like sulphur to appearance, but void of smell. I first thought it might be caused by a new shingled roof, but two of my neighbors tell me they discovered the same thing. I enclose a little parcel of this yellow matter, which I took from the sides of a barrel of the water at the side of the house, and if you think it worthy of notice should like to have it analyzed and a description of it published in the New England Farmer. It may be of no importance, but I never saw or heard of the like before. Grass is looking finely for this season of the year, and June grass is heading out rapidly. The weather has been quite hot of late, till since the shower it is quite cold. The shower was nearly hail, and accompanied with considerable wind, but little thunder. Frank.

Woodstock, Vt., June 6, 1869.

Remarks.—We have no hesitation in saying that the yellow dust or powder which was received in good order, is simply the pollen of pine, spruce or other trees. It is often carried to a great distance by the wind, and its collection on water in noticeable quantities, under favorable circumstances, is not very uncommon. The dry spell preceding the shower you speak of, favored its collection on both old and new roofs. A few years ago it was very abundant about our own residence, and many at first sight called it sulphur.

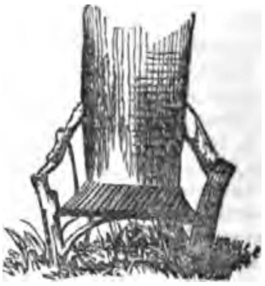
TO DESTROY WOODCHUCKS.

Feeling indebted to the Farmer for much useful knowledge, I think it but just to communicate such valuable facts as come under my observation. Having been much troubled by woodchucks, especially in my bean fields, for beans seem to be their favorite food, I have tried many ways in years past to thin them out. But this spring I have been more successful. I have adopted the method recommended in the Farmer last year of burning gun-powder in their holes, with this improvement: I add to the powder an equal part of sulphur. A handful of this mixture is put into a small bag, into which I insert the end of a fuse and tie up the bag tightly. It is then put into the hole as far as convenient, the other end of the fuse being left out, when the hole is filled up tight around the fuse. If the burrow has other openings, these must also be closed. Then ignite the powder and sulphur by means of the fuse. This fills the hole with gas, which is death to the woodchucks. In only two cases out of fifteen have there been any signs of life after burning the powder. The cost need not exceed five cents to a hole, and may save dollars. Elijah Myrick.

Groton Junction, Mass., June, 1869.

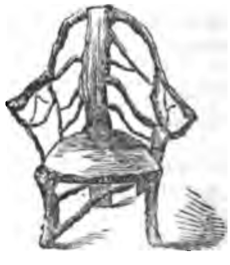
RUSTIC SEATS.

The authorities at Washington have decreed that ship carpenters and other mechanics and laborers employed by government may count eight hours as a full day's work. As it may take farmers who work from twelve to sixteen hours a day for much smaller wages than these men get, some time to see the justice of this decision, we propose that they take hold and build comfortable seats for calm reflection. They may not have much time to occupy them, to be sure; but perhaps after the last cow is milked, they may sit down for a few minutes and compare their life with that of those employed in Uncle Sam's navy yards and arsenals. We would not advise a costly lounge—an "accomplished sofa,"—or anything of the kind. If you have a good sized apple, maple, or any other tree near the house, what say to a seat after this fashion?



No mahogany or rosewood is needed in its construction; no costly tools are required for its manufacture. Crooked roots or gnarled limbs are just the material for its frame work; the more rough, the more rustic; the more curves and ridges it shows, the more fashionable and tasteful will it be regarded by your city cousins, and by the sons and daughters of the eight-hour men, should they honor you by a call.

But if you have no tree or stump against which to build your superstructure, then try your hand at a three-legged chair something after this pattern:—



The half of a spruce, hemlock, pine, oak, elm or other small tree, retaining the limbs, furnish not only the back but much of the elegant lattice work which adorns your pattern. For the other legs and rounds select the most grotesque, ugly looking sticks to be found in the wood pile or forest; no matter if they are so crooked that they cannot lay still on the ground alone,—and then see how nicely they will look when made a part of the "harmonious whole." Perhaps,

> "On such a seat immortal Alfred sat,
> And swayed the sceptre of his infant realms."

But whether he did or did not, such chairs are sold in Boston, and adorn the gardens and lawns of its suburban estates. And why may not farmers have them? Oiling will preserve the bark and the wood, but they should not be varnished.

We claim no originality in the above illustrations. They are copied from the *Rural New Yorker*, and answer our purpose very well. We believe that boys sometimes spend a leisure hour as unprofitably as they would in building either or both of the above comfortable seats, where their parents, their sisters or themselves may rest from their labors.

THE CROW AND JAY CONDEMNED.

Of late I have seen several pieces in your paper in favor of protecting the crows. Having been engaged for twenty-five years in collecting birds and eggs for literary and scientific institutions in Massachusetts and other New England States, I have necessarily made their habits a subject of much study. My conclusions in respect to the utility of the crow do not correspond with those expressed in the FARMER. I know that they destroy some insects in the spring, but mostly water insects that do no damage, but many of which prey on other species that are injurious.

But I do also know that crows live almost entirely on the eggs and the young of smaller birds, from the middle of May to the first of August, and that they feed their young on the same, and scarcely anything else. I have no doubt that a nest of four young crows—there are sometimes five—will eat two quarts of young birds or eggs in one day. That they destroy two-thirds of all the eggs and young of small birds I know to be a fact, in some sections. Of some species, I have known them to destroy four nests out of five, and that before the young were a week old.

Now I think that one small bird will destroy more noxious insects in one season than fifty crows. And this is not all. They often spoil large fields of corn when too late in the season to replant. If every crow, jay, hawk and owl could be fed to insects, I think it would be a blessing to the farmer and to the small birds, and I hope no law will be passed to protect crows or jays, for I see them daily hunting for the nests of small birds.

Hudson, Mass., June, 1869. S. JELLISON.

CULTIVATION OF THE INTELLECT.

The importance of manual labor as a means of rest and refreshment to the wearied brain, has often been urged upon the attention of professional people.

By the same rule we would recommend a daily interval of study to the "working classes," so called. There is, to be sure, in farm life, both within doors and without, an abundant call for brain work; yet so identified is it with the hand work, as to possess but little of the recuperative power of studies which have no direct reference or relation to the daily toil. If one who is "tired almost to death," will sit down to the solution of a mathematical problem which is just difficult enough to exercise without fatiguing the brain, he will find himself rested much sooner than if his mind were unoccupied. And so of other branches of science,—a little time given to them each day would be a profitable investment.

But besides the physical benefit to be derived from a regular course of study, there is the value of the knowledge itself, which is certainly worth as much in the meridian as in the morning of life. How many there are, who spend the bright hours of youth in acquiring knowledge, only to forget it when it is most needed. It is sad enough that any should be obliged, from want of time, to forego their studies as soon as they leave the schoolroom; yet there are thousands who do so needlessly. I would not be understood as confounding mere book-learning with education; but if books can be of any service to us, let us thankfully accept their aid in seeking the treasures of wisdom, and in passing from "glory to glory," even as He who gave us our mental powers, so evidently intended.

Marlboro', Mass., June, 1869. MATTIE.

PLUGGING THE HOLES OF APPLE TREE BORERS.

The letter from Mr. Hersey of Hingham, Mass., in the FARMER of May 22, giving a minute description of the apple tree borer, is as interesting as it is instructive. As is suggested in the editorial note to that communication, I think Mr. Hersey misapprehends the recommendation of plugging up the holes of the borers to destroy them.

One of my neighbors—Mr. Luther Stanley—while making an examination this spring of one of his trees, found several holes with signs of borers at work. He soon found it too much of a job to follow them with wire or chisel, so he dug around the roots, scraped off the rough bark from roots and trunk and found all the holes. Then he took common putty and plugged them all up perfectly tight. On the third day after doing this he visited the tree, and on removing the putty found, to his surprise, four borers dead, all of which came out with the plugging. By this process he destroyed the borers without cutting the roots or trunk of the tree, which is as injurious as the work of the borer, as I have often found it necessary to cut quite deep in order to reach the rascals. From the irregularity of the direction of their course, I have also found much difficulty in fishing them out with a barbed wire. ZEN.

Springvale, Me., June 5, 1869.

WRITING.—MR. BAKER'S BOOK ON FRUIT CULTURE.

I have been a reader of the NEW ENGLAND FARMER for the last three or four years, and I feel bound to say I find it both interesting and instructive. I have taken great interest in the "Extracts and Replies," and have sometimes felt as though I should like to ask or answer some questions, criticise some articles, make some suggestion, or something of the kind; but when I came to reflect upon the subject, I at once came to the conclusion that I never could write anything readable or sufficiently correct to occupy the columns of a newspaper, so I always gave up the idea of committing my thoughts to paper. But I find in your issue of January 9, some editorial "remarks,' very encouraging to me, as they must be to all who have the same delicacy with regard to writing that I have. You say "plant the facts firmly on paper, and leave the office editor and the printers to fix the spelling and syntax." You will please accept the foregoing apology, both as my reasons for not attempting to write before and for troubling you with the present communication.

In the FARMER of December 12, a "subscriber" wants to know "all about fruit culture." In the summer of 1866, I had the same anxiety to know all about fruit culture. About the same time I observed in the columns of the FARMER, under the notices of new books, a work entitled "Practical and Scientific Fruit Culture," by Charles R. Baker of the Dorchester nurseries. I immediately sent to Boston and procured a copy of this work from the publishers,—Messrs. Lee & Shepard. The connection of Mr. Baker with the Hon. Marshal P. Wilder, of enviable renown for his contributions to American Pomology, in the nursery business and cultivation of fruit, was a sufficient guarantee of the practical knowledge of the author of the subjects upon which his book treats. Mr. Baker also informs us that he has consulted some forty different publications upon the same subject, and condensed and embodied in his work whatever he considered of value and reliable. I think there is no work with which I am acquainted that gives, in detail, the arts of cultivation in every minutiæ equal to this work by Mr. Baker. Any person having a copy of the work referred to, I think, will be able to learn all that can possibly be learned from books, as regards the cultivation of fruit. But as you very justly remark, "it will require practice to succeed."

One word more before I close, How is it that Mr. Baker's book has never been advertised in the Farmer? You see that your simply noticing it under the head of new books procured them at least one customer, and also enabled me to gain the information I desired. I think Mr. Baker, or whoever may be interested pecuniarily in the sale of his book, should at once advertise in the Farmer.

A Canadian.

Stanstead, P. Q., 1869.

CURRANT WORMS.

I saw a statement a week or two since, in the Farmer, I think, that black currant bushes near other varieties would protect them from these destructive pests—as the writer of the article had bushes so situated, all fresh and fair, while others a little distance away were infested. I hope farmers and gardeners will not at once incur much expense in procuring this protection. I have in my garden black and red currants side by side. The black are now leafless, and I think the red will be in about four days. But the black seem to afford the preferable food.

K. K.

Charleston, Vt., June 8, 1869.

SKIM MILK FOR CURRANT WORMS.

Please say to your readers who are troubled with the currant worm that skim milk has proved a sure, swift and simple cure. Apply it with watering-pot or syringe; only be sure you wet all the worms; probably molasses and water would answer as well, or thin glue; but have never tried the two latter, as the milk did not leave any subjects for further experiment. A worm breathes through his skin. Stop the pores and he dies. Milk does it.

J. Nelson Jacobs.

Worcester, Mass., June 11, 1869.

LICE ON CATTLE.

Thoroughly anoint the creature with oil or grease; I prefer fish or lamp oil. It is perfectly safe under all circumstances, as even too much will not hurt the creature, only be a waste of the oil. It will kill all the lice, remove the dandruff and dirt from the skin, and put the creature in the best possible condition for gaining.

S. S. Tinkham.

Brownington, Vt., May 6, 1869.

ANOTHER CURE FOR SCRATCHES.

Among the many cures for this filthy disorder published in the Farmer, I have not seen the following, which I have used many times and always with success. After washing carefully with castile soap suds, and wiping the limb dry with a soft sponge, oil the same with hen's oil. Do this once or twice a day, and always before going out in the wet, and wash with cider brandy and wormwood after returning, to keep from taking cold.

Conway, Mass., 1869. J. D. Boyden.

SUGAR FROM A SINGLE TREE.

I have gathered from one maple tree the past sugar season, sixty gallons of very sweet sap, or sufficient to make 16 pounds of sugar. Who has done better?

E. N. Phelps.

Waterbury, Vt., May, 1869.

Remarks.—The average flow of sap from maple trees is stated at 12 to 24 gallons, by the American Clycopædia. But much larger quantities are often obtained. Believing that the value neither of the wood nor the sap of the noble Rock Maple of New England is fully appreciated, we hope the above will call out other statements to the credit of the *Acer Saccharinum*.

TAPPING MAPLE TREES.

From my experience I believe that as much sap is obtained by the use of a half-inch as an inch bit, and I am sure a small hole heals over sooner and injures a tree less than a larger one. But I do not think that as much sap will flow from shallow as from deep boring.

Sugar Maker.

Grantham, N. H., April 22, 1869.

WORMS IN HORSES.

To remove worms or bots in horses, I give half a pint of whale or lard oil, and repeat the dose after three days. I have never known it to fail, and the medicine will not hurt any horse or colt.

A New Subscriber.

Lancaster, Mass., May 3, 1869.

SORE TEATS IN COWS.—FEEDING CALVES.

Please say, on the authority of one who has tried both, that common West India molasses well rubbed in after milking is excellent for cows with sore teats, and that a few boiled potatoes put into the milk for calves that are to be raised will prove beneficial to their health and growth.

Mrs. M. A. Lakin.

Milford, Mass., May 29, 1869.

Rose-bug Trap.—In printing the little article in the Farmer of May 8, by Mr. P. B. Follansbee, on "Rose Bugs," the punctuation and wording failed to do justice to his idea or plan. Scattered among his four or five hundred grape vines, he has planted some twenty rose bushes for the sole purpose of trapping the bug, whose preference for the rose is indicated by its name. On these roses the bugs cluster, often in great numbers, and both roses and bugs can be readily picked early in the morning into a pail of water, and in this way the grapes are protected with little labor, and in a few years nearly all the rose bugs may be exterminated.

STEAM CULTURE—DEEP PLOUGHING.

JUST about two years ago the Royal Agricultural Society of England appointed three committees to visit different sections of country, where steam culture had been introduced. These committees attended to their duty in September of that year, and subsequently reported to the Society. The reports contain many facts of great interest.

But we wish to call attention at this time to the one great fact, that by the steam plough the soil is worked much deeper than is possible by animal power, and it was the uniform testimony that by deepening the soil, larger crops were obtained and of better quality.

Some American cultivators within two or three years past have objected to deep ploughing, and declared that nothing is gained by it. But the experience of English farmers has led them to the conclusion that the bulk of the crops, whether of grain or grass, is much increased by it, and this is our own conviction, especially when the subsoil consists of clay or clay loams. Deep ploughing has a similar effect to draining; that is, it enables the surface water to settle into the soil more rapidly below the roots of plants. It makes a deeper seed bed for plants in a dry time, and enables the roots at all times to reach the minerals in the soil, that have accumulated there. The recent objections that have been made against deep ploughing, are, we take it, a reaction against the idea that deep ploughing was to be a remedy for all the wants of the soil, which was so strongly urged a few years ago. That was the other extreme. We propose to make some brief extracts from the Reports above referred to.

Mr. Allen ploughed in July and August 323 acres, at the rate of eight acres per day, from eight to twelve inches deep.

Mr. Harvey, in a day of ten hours, ploughs from eight to ten acres; wheat stubble, fifteen inches deep.

Mr. Wallis says his experience shows that not only is the yield of wheat increased about four bushels per acre, but its quality is improved, and its market value increased.

Mr. Ruston is enabled to turn up deep subsoil to the depth of fifteen to eighteen inches. He claims greatly increased yields. He says he obtained one-fourth more an acre of barley and wheat.

Mr. Smythe says steam enables him to get crops where before he had to fallow one season. By deepening his soil he gets increased crops, better quality and crops a greater breadth.

Mr. J. T. Edwards, on his 300 acres of arable land, used to plough four inches, now by steam, ploughs from seven to nine inches. The land is warmer, dryer, and the crops larger and finer.

Mr. Sowerby's farm of 650 acres used to require a pair of stout horses to plough four or five inches. Now the drainage is better, the soil permanently improved, and a decided increase of crops.

Mr. I. W. Edmunds occupies 1000 acres of arable, and 200 of pasture land, in fields of ten to thirty-five acres. Uses Fowler's fourteen-horse power, four-furrow plough, and six-tine cultivator. The advantages are, improved drainage, cheaper tillage, seasonable performance of the operations, and increased yields.

Experience of five years has convinced the Duke of Marlboro' and his agent, Mr. Napier, on his farm of 750 acres of arable, and 1600 grass and pasture land, of the great utility and profit of steam culture.

Mr. William Lavender, on a farm of 550 acres strong clay and loam, clay subsoil, and always wet till the application of deep steam ploughing, says that this deep ploughing makes the driest ground and the largest yield.

Mr. Watt occupies 570 acres arable and 400 grass land. Deep and seasonable ploughing does away with the necessity of fallows, and the usual four-course rotation is changed to a five-course.

A committee in one of the reports say, we found clay fields lying in splendid condition for wheat, with a broken-up staple of nearly a foot deep, which is about twice the depth at which it was worked under the former regimen of four-horse ploughing.

Mr. Smith of Woolston gives the results of his four years' experience thus: Cost of ploughing per acre for four years, from ten to twelve inches deep, £2. 1*s*. under steam ploughing. Cost under horse power, five inches deep, £3. 10*s*. The total produce of four years under horse culture, eighty-five bushels wheat and beans; under steam culture, whole produce for four years, 140 bushels wheat and beans; increased produce nearly fourteen bushels a year.

The Committees visited 135 farms where the steam plough had been more or less used. In all cases the depth of cultivation had been nearly or quite doubled, and the general conclusion was that the crops were greatly increased, and the cultivation was much cleaner and better than under the more shallow ploughing of horses.

Several important points are brought out in these Reports, but the effect of deeper cultivation is sufficient for our consideration at one time. The amount of wheat per acre, under English cultivation, is constantly increasing, while in this country it is steadily diminishing. This subject is arresting the attention of the wheat raisers on the prairies, and they are wisely coming to the conclusion that the first thing to be attempted is a deeper cultivation of the soil. If they can find in the earth itself the means of enriching the surface, they can continue for a time to raise their own bread, perhaps until a more compact population and a better system of stock raising and keeping shall enable them to return to the soil the manurial substances required to preserve its fertility.

CLASSIFICATION OF IMPORTED WOOL.

The decision of Secretary McCulloch, in relation to the classification of a certain lot of East India wool, made last February, has excited alarms in the minds of many farmers, and led to remarks by editors and correspondents of agricultural papers which, it has appeared to us, the facts have not fully justified. In their haste and alarm, some have spoken of this decision as proving the wool tariff "a humbug and a snare," as "putting a damper on all our fond hopes, and settling the question as to any benefit we are ever to receive from this tariff." Others have made it the occasion of personal abuse of those who acted on the committee appointed by the wool growers to represent their interests in the commission which framed the law.

In an article in the *Rural New Yorker* of June 12, Dr. Randall says:—

> The decision, stretched to the furthest limit, does not embrace any extensive amount of wool which can find a profitable sale in our markets. Our greatly disturbed friend who signs himself "An Ohio Wool Grower," is informed that the decision includes no "Australian wools," no "Cape wools," no wools of Merino blood, "immediate or remote," from any part of the earth—in short, no wools whatever but "native East India [Hindostan] wools of unmixed blood." It no more "overthrows the wool tariff" than the detachment of two or three bricks overthrows a solid edifice.

The article from which this paragraph is taken is accompanied by a lengthy correspondence between the President of the American Wool Growers' Association and the Assistant Secretary of the Treasury, in relation to Mr. McCulloch's decision, in which we see no evidence that Secretary Boutwell has confirmed that decision, nor that he has reversed it.

Dr. Randall complains, and we think with justice, that in making this decision, the wool growers' committee, who had a hand in making the law, were not consulted in relation to its construction.

The Assistant Secretary of the Treasury, Mr. J. F. Hartley, submitted Dr. Randall's objections to this decision to Mr. Geo. W. Bond. In his reply, addressed to Mr. Hartley, Mr. Bond justifies the decision, and says:—

> I sent to the Custom House and obtained the sample of Mr. Heye's wool, and compared it anew with each of the No. 84 samples in the three cabinets still in my possession. I found that each of them contained wool more than one-half of which was equal to Mr. Heye's, a small portion finer and a small portion coarser, and I therefore declare that the wool was properly classed as No. 3 by that sample. I submitted these samples to Mr. Daniel Staniford, than whom no one in this city holds a higher position as a wool broker, to Mr. Anderson, an experienced wool manufacturer of Lowell, and to Mr. Allen Cameron, a very intelligent manufacturer of Graniteville, all of whom concur with me in opinion and will be ready to give a certificate to that effect if desired. Mr. Baush, the Appraiser at New York, an excellent judge of wool, I am aware did not think sample 84 represented Mr. Heye's wool. This, I think, was owing to the fact that the coarse part of that sample in his cabinet happened to be at the mouth of the cylinder. It was so when he called my attention to it.

Does this look as though even Mr. Bond regarded *blood* as the exclusive principle of classification? Here he refers to the character of the *samples*, and not to race or "blood," as the standard.

Mr. Bond, as will be seen by the above extract from his letter to the Secretary, consulted a wool broker and two manufacturers. Dr. Randall states the claim of wool growers to a voice in the matter in the following modest terms:—

> Inasmuch as the facts (the relative qualities of wools) on which rests the propriety of the proposed change in the classification of Angora wools—and of all other wools which Mr. Bond or others may attempt to get transferred from Class 1 to Class 3

—do not admit of practical demonstration, I respectfully solicit that before such changes are ordered by the Department, a hearing may be given to experts who represent different interests—to the friends as well as the enemies of the wool tariff. This course was adopted by the Department in the analogous case of adopting the standard samples. And the wool growers' and manufacturers' committees, on that occasion, objected to all the selected samples of one particular number or variety, and caused others to be substituted; and this occurred in the case of a most important variety, because, as Mr. Bond himself stated, it more nearly than any other variety in the cabinets *touched the dividing line between carpet and clothing wools.* Some other partial and minor changes were also made. To the propriety of all these alterations Mr. Bond assented—thus practically acquiescing in the view that the opinions of a body thus constituted are entitled to more confidence than the opinions of a single side or single individual.

If this claim is manfully insisted on by the wool growers of the United States, we have little doubt that Secretary Boutwell will grant them or their representatives, as well as brokers and manufacturers, an opportunity to be heard on questions which so directly affect their interests.

BLACK ANTS.

A good housekeeper near by is constantly annoyed with "black ants" in her pantry. They infest the sugar box and cake jar, and are a source of trouble wherever found. Can you prescribe a "good riddance" for them, and much oblige a constant reader of the FARMER. JAMES FOOT.
Pittsfield, Mass., June 2, 1869.

REMARKS.—There are about as many ways to get rid of the black ants as there are to get rid of the "shakes" in a fever and ague neighborhood. We will name a few, and you may take your choice for experiment. 1. Procure a large sponge wash it clean and press it dry. This will leave the cells open. Then sprinkle fine white sugar into it and place it where the ants congregate. They will collect in the sponge. Then dip it into scalding water and thus destroy the ants. But as hot water injures the sponge, its immersion in cold water may answer. Repeat the process till the pantry is cleared. 2. Take about a spoonful of common painter's red lead and mix with molasses enough to make a thin paste. This will catch some and disperse the balance. 3. Fill one or more common tea cups half full of sweetened water, place them on the shelves, and large numbers of the ants will tumble in and be drowned. 4. Ants are very fond of walnuts. Remove the sugar, &c., temporarily from the pantry, and put a quantity of walnuts or shellbark nuts on plates and put them in the closet. The ants will soon collect in myriads on the plates, then turn nuts and ants into the fire, and repeat as long as they collect on the nuts, then put powdered camphor into their holes and crevices, and they will all disappear. 5. Spread thick molasses on a piece of brown paper, then sprinkle on a little arsenic, and place it in the way of the ants. Cobalt and molasses are also sometimes used. But if you do not succeed in driving them away, you can make a low stool for your sugar barrel or tub, with each leg in an old blacking box or other cup or dish partly filled with tar or oil, keeping the tub or barrel a little distance from the sides of the pantry. But, after all, there is this consolation about the black ants, they are not half as bad as the little red ones, which we believe are never seen where the black ones abound. As affording a hint to those who are fighting ants, the following remarks on their intelligence and habits by B. Jaeger, in his "North American Insects," may be of interest.

"If one ant discovers a closet where are sweet articles, such as fruit or sugar, it quickly returns to its fellows for the purpose of acquainting them of its discovery, and in a very short time whole swarms of them will arrive with the discoverer to divide the spoils. They go out in companies, also, to drink, of which they are very fond; but if one of them is disturbed in so doing he communicates the fact immediately to all the rest by pushing the one nearest him, who passes on the news in the same way to all the rest, when all receiving the sign run to the hill; but if any one is not attentive to such admonition, he is seized by the legs and dragged to the hill. In general, they give signs to one another in all their operations by their angular or elbowed antennæ, which work somewhat like the old French telegraph. With their antennæ they also express their friendship and love, as we may see when we observe them caressing one another, or their friends the plant-lice."

While combating what we regard as pests, we cannot but admire, not only the industry of the ant, which is commended as an example to the sluggard by Solomon, but the wonderful instinct manifested by some species. Dr. Lincecum, as quoted in "Homes without Hands," gives the following account of a large brownish ant found in Texas, which he calls the AGRICULTURAL ANT.

"When it has selected a situation for its habitation, if on ordinary dry ground, it bores a hole, around which it raises the surface three and sometimes six inches, forming a low circular mound, having a very gentle inclination from the centre to the outer border, which on an average is three or four feet from the entrance. Around the mound, the ant clears the ground of all obstructions, and levels and smooths the surface to the distance of three or four feet from the gate of the city, giving the space the appearance of a handsome pavement, as it really is.

"Within this paved area not a blade of any green thing is allowed to grow, except a single species of grain-bearing grass. Having planted this crop in a circle around, and two or three feet from the centre of the mound, the insect tends and cultivates it with constant care, cutting away all other grasses and weeds that may spring up among it, and all around outside the farm-circle to the extent of one or two feet more. The cultivated grass grows luxuriantly, and produces a heavy crop of small, white, flinty seeds, which under the microscope, very closely resemble ordinary rice. When ripe it is carefully harvested, and carried by the workers, chaff and all, into the granary cells, where it is divested of the chaff and packed away. The chaff is taken out and thrown beyond the limits of the paved area.

"During protracted wet weather, it sometimes happens that the provision-stores become damp, and are liable to sprout and spoil. In this case, on the first fine day, the ants bring out the damp and damaged grain, and expose it to the sun till it is dry, when they carry it back and pack away all the sound seeds, leaving those that had sprouted to waste."

EFFECT OF EXPOSURE ON COAL.—Prof. Rockwell, in the American *Journal of Mining*, calls attention to the deterioration which coal suffers from exposure to the weather, and to the importance of keeping it as dry as possible. Anthracite suffers the least. According to the experiments of Grundman in Germany, coal exposed to the weather in heaps, lost in a period of nine months, fifty per cent. of its value as fuel, and about as much as a gas-making material. It undergoes a slow combustion, taking up oxygen, and giving off the volatile products of oxidation,—air and moisture playing the principal part, and warmth promoting it.

For the New England Farmer.

HOW SHALL WE IMPROVE OUR FARMS?—NO. 2.

On the thirty acres of worn out land mentioned in a former article, (Weekly Jan. 23, Monthly page 120,) was one field of ten acres which had been about half seeded two years before, and gave but little feed, and, in order to know whether land could be brought to a good state of fertility by keeping stock on it exclusively, I determined to test it on this piece; it being, like the other, remote from the barns and difficult to get manure on to.

On one end of the piece was a small hay barn, and I made some sheds for shelter. I then divided the field in the middle by a fence. On one-half of it I turned twenty sheep after the feed had started so that they could live. On the other half I sowed, early in the spring, thirty pounds of clover seed, and one bushel of timothy seed and kept it for meadow.

The first half, or pasture, kept the sheep through the summer and fall, it being a favorable season for feed, but the sheep went into the winter pretty thin. From the other half, or meadow, cut 2¾ tons of hay which, with seven bushels of oats, kept the sheep through the winter, but they were not kept as well as they should have been.

The account the first year stood as follows:

TEN ACRE FIELD.	Dr.	
20 sheep, cost	$30.00	
Grass or hay seed	7.30	
Cutting hay, washing, shearing and care of sheep	40.00	
7 bushels of oats	3.00	
Total expense first year		$80.30
	Cr.	
90 pounds of wool at 52c per pound . .		$46.80
Leaving the ten acres in debt . .		$33.50

The sheep were two years old and had no lambs.

The second year put the sheep back in the same pasture and spread the manure on the meadow, and during the latter part of April sowed one ton of plaster of Paris on meadow and pasture. Raised fourteen lambs this year and kept them all in the pasture until foddering time. For this year the account stood as follows:—

TEN ACRE FIELD.	Dr.	
To total expense, labor, care, &c. . . .		$60.80
	Cr.	
112 pounds of wool at 45c	$50.40	
14 lambs	17.50	
		$67.90
Balance in favor of land the second year		$7.00

Deducting this from the balance of the first year, and it appears that the land was indebted, at the end of the second year, $26.40, but I had about one ton of hay which lay over.

The third year put in the old sheep and five of the lambs, making twenty-five. Managed the same this year as last, using the plaster on both as before. and the total cost including the price of the five lambs, and the amount back on last year $104.65. Income from wool, lambs—of which there was seventeen,—and two tons of hay fed to other stock, $122.50, which brings the balance the other way by $17.85.

The fourth year put the sheep in the meadow, forty-two in number, and used $7.00 worth of hayseed and one-half ton of plaster on the old pasture, all the manure made the past winter, and sowed one-half ton of plaster on the other piece. Total cost this year $138,50, charging the seventeen lambs, and $28.00 worth of grain fed to get them through the winter. Income 251 pounds of wool at seventy cents per pound, $175.70; sixteen lambs at $2 per head, $32.00, together with balance of $17.85 from last year, makes $225.55. Deduct expense, $138.50, leaves $87.05 to the credit of the ten acre lot.

The fifth year put in fifty sheep and managed precisely as the previous year, at a total cost of $147.00 and an income of $335.00, the wool bringing this year $1.00 per pound. The land then being $275.00 ahead.

The sixth year left the lot $402.00 ahead.

The original cost with interest for six years at seven per cent was $282.00, taxes, $35.00. Total cost and expenses $217.00.

Therefore, the land has paid for itself, interest, taxes and all other expenses, and $85 over, with sixty-six sheep on hand, worth $132.00, which makes $217.00 for profit, and the land is worth double what it was at the start, independent of the rise on land.

From this I conclude that land can be enriched by keeping sheep on it exclusively.

Now the question arises, is it practicable to apply this method to the whole farm? Unless the owner has capital sufficient to carry on the farm for four or five years and to subsist upon, it is hardly so; but the man that has this capital can enrich his farm in this manner as cheaply as in any other way, and it will be a very lasting improvement, as land once made fertile in this manner, will bear a vast amount of cropping afterwards, if reasonably taken care of. The low price of sheep and wool at present would probably affect the result somewhat; but it is reasonable to expect both to command better prices within two or three years.

Still I would advise those intending to improve their land by keeping stock, to keep some of all kinds; that is, some sheep and some cattle. Every farmer must have, in the first place a team; next, cows enough to supply his family with milk, butter, cheese, &c. Then let him make up the rest as he likes, more cows or more sheep.

One thing he must do if he would enrich his land in this way, and that is, keep all the stock that the farm will carry through the summer and winter, and do it in good condition.

Plough only just enough to raise what you consume on the farm, and raise that on just as little land as possible with high culture and high manuring. Make all the manure possible, by mixing muck, if to be had, with the animal manure, and saving all refuse and leaves, bones and everything that can be turned into manure, and put it on the land to make more grass, hay, &c., which will enable you to keep more stock, which will make more manure. In this way these old worn out farms, of which there are so many, may be brought to their former state of fertility. And, as old preacher Dow used to say, *so mote it be!* J.

Oak Hill, N. Y., 1869.

Remarks.—The thirty acres alluded to in the first paragraph of this article were improved, as will be remembered by most of our readers, by ploughing in clover with plaster. In this case a like improvement by keeping sheep is detailed. Both experiments were made by a practical farmer, who at first objected to giving us a statement of them, because he was not accustomed to writing, and because they were only such experiments as any body could make, and which he should fear would hardly be worth printing. We hope his success in improving his "worn-out" fields will encourage other farmers who have similar lands, to follow his example.

For the New England Farmer.

EXPERIMENTS IN CUTTING GRASS EARLY.

For several years past I have cut my hay earlier than most of my neighbors. I have had so much said to me by some of them against early cutting that I have sometimes felt that I was experimenting, and perhaps I was wrong and they right. When I was a boy, I remember we generally commenced haying the first Monday after the "Fourth," and finished our English by the first of August, if the weather and every thing else were favorable. If the weather proved unfavorable, we had to finish sometime in August.

Last year I intended to *experiment*. I commenced cutting twenty-five acres of English early enough to have it all *done* by the fourth of July.

I cut my orchard grass first, I think about the middle of June. The weather was wet, or I should have cut it a week earlier. As it was, it was overripe, and the cattle refused to eat it up clean. This is the earliest grass I have, and may be cut by the fifth to the tenth of June every year, or ten days before clover.

I next cut my best grass, on land where I expected to cut a second crop. This was clover and timothy.

I cut the redtop last, on fields that had partly run out, and would not cut but one crop. All but one acre was cut by the fourth of July. That acre was left as an experiment, till the third week in July. When cut, it was so much older than what I had cut earlier, that the stems were hard and stiff, and when it was put up in cocks it did really look as though the crop was twice as large as if it had been cut in June. And it made a large bulky load, but we all noticed that we did not have to lift very hard to put up a large forkful; whereas, of that cut in June, we did notice that a small forkful made a heavy lift. And the difference was noticed all through the winter.

The mows and scaffolds of hay *held out* as they never did before. Visitors remarked that the hay in the barn seemed like *pressed* hay, it was so solid in the mows. It was fed to milch cows and young stock. Very little grain was needed to keep them all in excellent condition. I fed some grain for the sake of a variety.

I shall not cut early this year as an experiment, but because I am fully satisfied that an acre of grass is worth more, cut as soon as it is in blossom, or even a little before, than it will be any time afterwards; although it will sometimes thicken up at the bottom. But the main part of the crop is growing poorer every day after it is in full bloom.

A. W. Cheever.

Sheldonville, Mass., June 6, 1869.

—A California wool circular estimates the next clip of that State at 18,000,000 pounds.

AMONG THE FARMS.

Planting — Highways — Crop prospects — Potatoes — This season and last — Pastures — The grass crop — Value of clover.

Our own planting being finished, we improved the occasion by enjoying the luxury for a few days of looking at some of the farms, and conversing with some of the farmers, scattered over a space of about a hundred miles, in the direction of our route.

Where the roads were repaired in April we found them smooth, hard, and pleasant to drive the team over. Occasionally, however, parties of men, with implements and oxen were ploughing up the turf and fine sand or loam which had been washed from the bed of the road, and throwing it back to the places where it had been probably thrown twenty times before! Thus, in a sweltering hot day in June, when the young crops demand the farmer's care, these men were making the roads in worse condition than they were in before they commenced upon them. In some instances the earth was drawn on to the road with a scraper, and in others shovelled on, lumps and sods included, where it was suffered to remain very much in the condition in which it was dropped there. Where the stones were numerous, and too large, the workmen sometimes condescended to throw out the thickest of them on to the side of the road, where they could *enjoy the pleasure of ploughing them back again during some hot day next June!*

The roads left in this condition—and there were many patches of them—are truly execrable. Trotting a horse over them, even in a light buggy, was out of the question. The direst punishment we could wish such road destructives, would be to ride over their own works until they should learn that there is a night and a wrong way to repair a road, so that when they labored again, it should be in the right way. We sincerely believe that ten dollars, judiciously expended on those roads in the month of April, would accomplish more good than twenty-five dollars would in the month of June. Some of the places which had been worked over within a few days, were mere beds of shifting sand, or, if in low places, were cut into deep ruts and holes, and the earth sun-baked, so that the road-bed was about as comfortable to ride over as a road would be covered with bricks dumped down miscellaneously upon it. When will men learn wisdom and cease to sin against light and knowledge. It was not only vexatious but sad, to see so much labor misdirected, and so much discomfort follow from it. The fresh air from the hills, and the nodding blossoms by the wayside, were only partial compensations for all this waste of human toil.

Generally, the crop prospects are good. Nearly all seeds committed to the ground came quickly, in good color and strength. The corn is an entire week beyond its condition at the same period last year. Winter grains are stout and forward. Barley and oats have set finely, and promise large returns. Potatoes look well. A great change has taken place in regard to the time of planting them. In all the region about cities or manufactories,—anywhere, where a home market is found, *early* potatoes,—that is, potatoes that are fit for the table in July and early August, may be sold in almost any quantity. This stimulates the farmer to get in the seed as early in April as the ground will permit. He finds it a profitable crop, and is enabled to harvest it in season to get a crop of turnips from the same soil, or to lay it down to grass for future years. By this course, the returns are quick and the profits fair.

All small seeds have come remarkably well this season; beet, carrot, onion, parsnip, celery, egg plant, and other seeds in the garden, never came better. The small field seeds, also, mangold, rutabaga and beets have come quick and strong.

The *pastures* all along the way seemed unusually rich this season. We do not believe the fresh flowers, the singing birds, or the music of the brooks, beguiled us into an unusual harmony with the nature about us. It was not that. If it had been, the execrable roads we were obliged occasionally to pass, would have neutralized and dissipated it all. The impression on the mind of our young and intelligent companion harmonized with our own. He saw the new and promising life all about us in the same glowing light. The pastures were rich and plentiful in their verdure, and their sleek and contented occupants verified our conclusions.

Such was not the case, singularly enough, with a large proportion of the mowing fields. They certainly did not come up to their usual estate in the middle of June. What can be the cause of this? Is it not an anomaly, that when the *pastures* are fresh and luxuriant, the *mowing* fields should look scanty and unpromising? Everywhere, the remark was make by observing persons, that the grass crop would be light. Was it *winter killed?* If so, it was in some general and unusual way, for we saw very few bare patches, such as usually occur in slight depressions in the field where ice was formed, and winter-killing succeeded. The injury seems to be minute, occuring over a whole field, giving the grass a sparse and weakly appearance. Was it the open winter, sweeping winds, or extreme cold? It is a case *sui generis*, unique, peculiar of its kind. Will the *savants* of the agricultural college enlighten us? This is our principal New England crop. We must not let it decrease. If the South has been awakened to its interests, and is cultivating the grass crop, so that its demand upon us will be less than usual, we must feed more good hay to our stock, and let the meadow hay go to cover strawberry plants, pack crockery with, or preserve another valuable New England crop—the ice. We must increase the crops of timothy, red-top, orchard grass, and, especially, the amount of clover, so that we shall not only see the

> "Flocks thick nibbling through the *clovered* vale,"

but find our barns stored with it for winter use. It probably makes the most valuable dry fodder we have, both for horses and cattle. The objection to cultivating it in larger quantity, has been in the difficulty of properly curing it. With the use of hay caps, however, and other facilities for securing hay, that difficulty will vanish before enterprising farmers. Those persons who are raising milk for market, will find it greatly to their account to harvest a large portion of their fodder in clover. No other long fodder will produce milk like it, and none is so grateful to the appetite of neat stock.

In Flanders, clover is deemed indispensable to profitable farming; and they know there what good farming is. Upon its cultivation hinges apparently the whole of the farmer's prosperity. Without clover, no man there would pretend to call himself a farmer.

In Great Britain, clovers are considered alike indispensable to good farming. Where clover and plaster have been most freely used in our country, the greatest degree of agricultural improvement has taken place. Several counties in Pennsylvania have doubled their agricultural products and profits since the introduction of clover and gypsum.

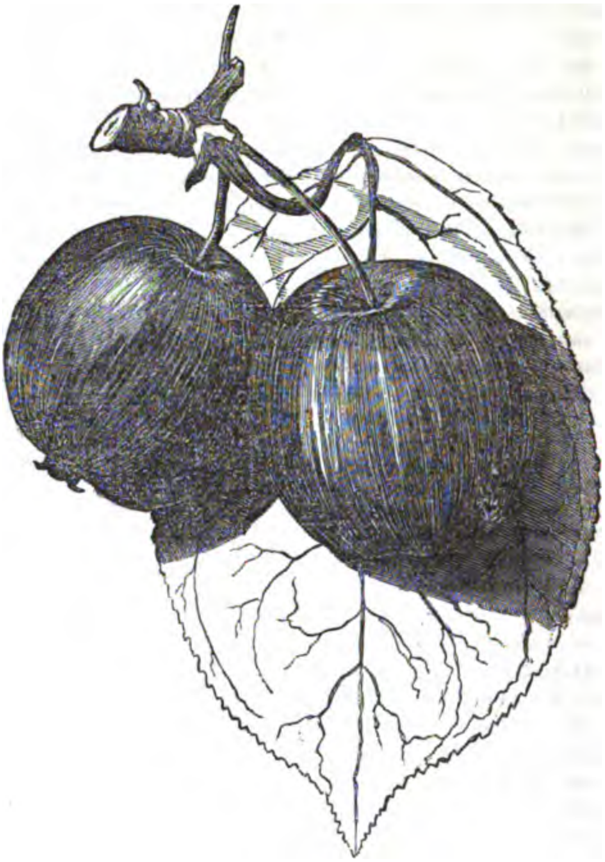
CAUTION AGAINST CUTTING GRASS TOO EARLY. —The way that some folks put in practice the recommendations of particular things, or of particular ways of doing things, is often illustrated by the story of the old Indian, who having heard that feathers made a soft bed, laid a single one on a rock and slept on it, and then complained that it was the hardest bed he ever saw. So, lest any one should understand that what we have said in favor of early haying means to cut grass before it is two-thirds grown, we copy the following caution from the *Ohio Farmer*:—

> Farmers are not usually fooled more than once by following the advice of unskilled but would-be wise advisers, who advocate cutting grass before it is two-thirds grown, but many of them meet with great losses year after year by not being in readiness when the proper time for cutting comes, and allowing the crop to get too old and ripe.

HOW TO LEARN.—At a recent evening meeting of the members of the Legislature of New Hampshire interested in farming, Mr. Joseph B. Walker of Concord, in response to the call of the chairman to explain how he raised the best corn in the State, made some observations on ploughing, manuring, &c., closing with the remark, "for myself, I have learned more by my blunders than in any other way."

We commend this remark to those of our correspondents who sometimes say, when speaking of some incomplete experiment, "if it succeeds well, if I have a good crop, or if it turns out as I expect, I will report the result for the benefit of others." Blunders and failures are, in fact, as Mr. Walker says, even more efficient educators than successes, and should be as fully and minutely reported.

—For tender mouth in horses, a correspondent of the *Country Gentleman* has been successful in using a chain nose piece. He says, "put a short piece of small chain in front of the horse's nose; fasten to the head-stall by running through the rings at the lower end of the check-pieces. Attach your line to the chain, and you are ready for a start. After a day or two remove the *bit* and grease your horse's mouth and it will soon be well. I used a horse two months without a bit, both single and double, and found no trouble in guiding him."



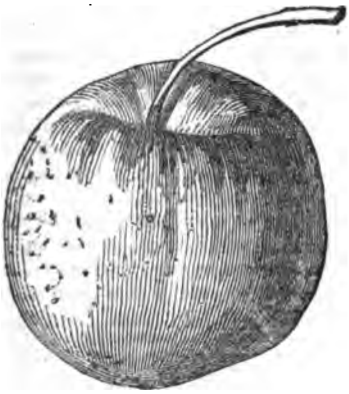
CRAB APPLES.

Our interest in this fruit was much increased by the display of Crab Apples at the Fair of the Vermont State Agricultural Society last fall, which included one hundred and five varieties from the garden of the Misses Shipman, near Burlington. It is with pleasure that we notice a series of articles in the *Rural New Yorker*, written by F. R. Elliott of Ohio, a distinguished pomologist, on the cultivation of this fruit, with suggestions for the production of new varieties by hybridization, &c. The failures that have attended the introduction of the choice varieties of our common apples into the Northwestern States and Territories have been so numerous that many have come to the conclusion that this section is not adapted to the growth of any but small fruits, such as currants, gooseberries, &c.

Mr. Elliott believes, however, that some varieties of apples may be grown wherever corn will ripen. Indeed, he says that "during the past few years the exhibition tables of horticultural societies in those sections have been supplied with a new class of apples, which, while they have not the size of a large proportion of the old varieties of the *Pyrus malus*, possess richness of flesh, and eatable quality, almost if not quite equalling them; and from the botanical character in tree—the *Pyrus baccata*—a hardihood that insures success to the planter."

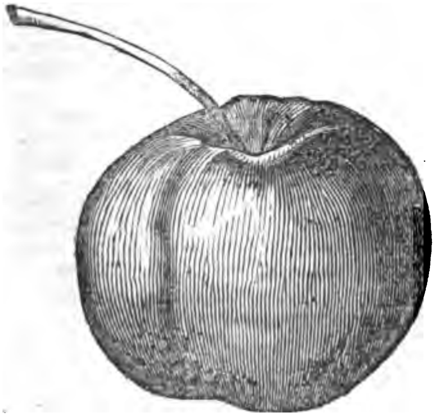
Mr. Elliott gives the following description of the three varieties represented by the cuts, which we borrow from his article already referred to; the first being that of the one at the head of this article:—

THE TRANSCENDENT.—Fruit, medium to large for its class, roundish oblong, flattened at its ends, slightly but regularly ribbed; golden yellow, with a rich crimson, red cheek in the sun, covered with a delicate white bloom; when fully ripe the red nearly covers the whole surface. Stem, long and slender, set in an open, deep cavity; calyx closed, with long reflexed segments; flesh, creamy yellow, crisp, sub-acid, a little astringent until fully mellow when it is pleasant and agreeable; seeds, full and abundant; leaf, broad, oval, with an acute point, and narrow, sharp, regular, serratures; season, early Autumn. This is one of the best of early autumn varieties; but while I have had specimens gathered in August, keep until October, I have failed to keep it later, and fruit taken from the tree late in September has failed to keep more than a month.



Hutchinson's Winter Sweet.

Fruit medium size; roundish oblate; light yellow ground, with a blush red cheek in the sun, and many minute dots; stem long, slender, in a deep open cavity; calyx closed, with long pointed segments; basin broad, deep, corrugated; flesh yellowish white; dry, sweet; core large; seeds abundant; season November and December.



Chase's Winter Sweet.

Fruit medium size; roundish oblate; rich, warm, yellow ground, mostly overspread with dark, rich red; minute dots; stem long, slender; cavity broad, open, deep; calyx half closed, with short almost erect segments; basin shallow, corrugated; flesh yellowish, very firm, moderately juicy, mild sweet; core small; seeds plump and abundant; season December. This, apparently, is a long keeper, and much the best sweet apple among its class.

OUR AGRICULTURAL WRITERS.

Many of our contemporaries take much satisfaction in announcing the names of the various distinguished agricultural writers and speakers who may have engaged to enliven their columns by an occasional contribution. From the character of their pursuits, many persons who have obtained wealth as merchants or manufacturers, or notoriety in politics or the professions, have acquired, at the same time, a facility in speaking and writing which enables them to express their thoughts, and to communicate the facts of their observation, in an agreeable and attractive manner.

On the other hand, men who devote their lives to practical farming,—who work not only for "a living" but for the support of a family,—have little time and less inclination to practice their faculties of communication.

Hence it comes to pass that in the columns of most agricultural papers, as in town meetings, legislative bodies, conventions and assemblages generally, a certain few individuals are expected to "hold forth" on all subjects and at all times. They speak or write, not because they "have something to say," but because they wish, or think they are expected "to say something." Such men are liable to talk and write until people are tired of hearing and reading.

Those who read agricultural papers call for articles written by practical farmers, and it is encouraging to note the steady increase of such articles in most of the papers in the country. The change in this respect has been very great within a few years past. Among the evidences of this change we may mention the fact that during the past year a larger number than ever before of the communications forwarded to this office have been accompanied by a postscript, like that attached to one of the best articles in the present number, in which the writer says, "I never attempted before to write anything to be printed," &c. Such men write because they have something to say, and when they have said it they stop, and give others a chance.

Our own estimation of the value of the communications of writers of this class, we are pleased to find is shared by others, and is expressed by a corespondent of the *Western Rural* as follows:—

> Who are our best Agricultural writers? Are they men that gain their knowledge of farming from

books and papers only? Nay, verily. They are experienced farmers. They are men whose hands are hardened by hard labor. They are men who have selected rich land, paid for it, and have brought it into a state of cultivation by years of incessant toil. They are men who are experimentally taught the knowledge of farming they impart to us on paper. They are men who select and cultivate the choicest qualities of farm produce. They are men who select the choicest varieties of fruit trees; and by their own labor, they are trained and pruned. In short, they are men who are acquainted with all the branches of farming; and it is such men only that can produce sound discussions on agriculture.

NEW PUBLICATIONS.

NEW AMERICAN FARM BOOK. Originally by R. L. Allen, Author of "Diseases of Domestic Animals," and formerly editor of the "American Agriculturist." Revised and enlarged by Lewis F. Allen, Author of "American Cattle," Editor of the "American Short-horn Herd Book. New York: Orange Judd & Co. 1869. Boston: Nichols & Hall. 526 pages. Price $2.50.

This volume treats of soils and their cultivation, of manures and their composition, of grasses, grains, fruit, farm buildings, animals, &c. Though written in the form of a treatise, and not arranged alphabetically, it is in fact an encyclopædia of agriculture, and by means of its full index may be consulted as such, in the every day operations of the farm. The original work was published twenty-three years ago, and has been widely circulated. The editor of the present edition is so well known to farmers as to need no introduction or endorsement by us. We may, however, say that he has made a *new* book, and one that we think will please farmers. It treats of general principles, and not, like too many of our modern agricultural publications, of the good points of the herds of particular breeders, or the implements of particular manufacturers. We do not see any indications of axe-grinding in this volume. We wish we might close our notices of all agricultural books with the same remark.

THREE SEASONS IN EUROPEAN VINEYARDS: Treating of Vine Culture; Vine Disease and its Cure; Wine-making and Wines, red and white; Wine drinking as affecting Health and Morals. By William J. Flagg. With a Manual for the Sulphuring of Diseased Vines. New York: Harper & Brothers. Boston: A. Williams & Co. 1869. Price $1.50. 332 pages.

Though written in a chatty style, the author informs us that his "chief aim has been to convey information, both practical and theoretical bearing on the important matter of wine-growing in America." He gives the following as a summary of the results of his observation of the practice of European vineyardists:—long pruning is injurious; drainage is necessary; plains are preferred to hills; preference is given to low training without supports; red are better than white wines; sulphur may be relied on as a cure for all vine diseases; each variety of vine needs a different culture for each different soil, and again for each different climate.

In relation to the use of wine, it is assumed that "the American people are in want of a drink." "A nation has transplanted itself, but not its vines, from one hemisphere to another, and is thirsty." Our present American wines are characterized as "a diluted alcohol flavored with grape acid, and sometimes, too, colored with grape skins." These it is admitted will not promote temperance; still it is insisted that when we learn to produce "good, pure, wholesome wines at a cost of ten cents a gallon" drunkenness will disappear. Others who have visited wine countries and who have seen perhaps as much of "wine bibbers" as the author of this book, arrive at very different conclusions as to the probable result of the free use of wines by a people who dwell in our "thirsty" climate.

The book has an index, for which the author makes a handsome apology. As we do not remember of ever having seen anything of the kind before, we copy it. "Inasmuch," says Mr. Flagg, "as the information conveyed in the volume has of necessity got interwoven and somewhat entangled throughout the whole texture of the narrative, and might consequently be difficult to refer to, I have added an index, which will help the reader to search out what he may need to find."

THE PRACTICAL POULTRY KEEPER. A complete and standard guide to the management of Poultry, whether for domestic use, the markets or exhibition. By L. Wright. Third edition. New York: O. Judd & Co. Boston: A. Williams & Co. 1869. Price $2. 244 pages. Illustrated.

This is an English work, and Johnny Bull's positiveness confronts us even on the title-page,—"A Standard Guide;" to which the preface adds, "authoritative." If the author's estimate of the profit of keeping fowls on a large scale is "authoritative" and a "standard guide," those who have faith in mammoth heneries will find aid and comfort in this volume. On pages 240 and 241—please remember the pages, as the book has no index to facilitate reference—we find his estimates for an establishment of ten thousand fowls. He figures the necessary capital as follows:—

10,000 fowls, at 50c each	$5000	
Buildings, Fittings, Engine, Plant and Utensils, including two horses and carts	6750	
One month's food	750	
Spare cash working capital	2500	
Say total capital		$15,000

His estimate of expenses aside from food, for the fowls, is as follows:—

Rent—100 acres, at $10	$1000	
Taxes	200	
Interest on capital of $15,000 at 5 per cent	750	
Wages—2 men with their families	1000	
Horse keep	300	
Fuel and attendance for engine	500	
Annual Expense		$3750

He does not give the items of the income, nor of the food consumed, but assumes that "we are justified in reckoning every fowl in the yard as representing a gross profit, including manure, over and above her food of 4s ($1) per annum." Therefore,

Gross profit over food from say 9600 hens, at $1 per annum each, is	$9600	
Expenses as above	3750	
Gross profit one year		$5850

This looks well on paper. It is a good specimen of book farming. But so far as we know, all attempts that have been made to put it in practice have sadly failed.

On reviewing his figures, our author remarks that "if they show a somewhat more moderate return than other writers have promised, they are at least likely to be realized, and, with a good market, offer sound inducements to the enterprising capitalist."

FIVE ACRES TOO MUCH. A truthful elucidation of the attractions of the Country, and a careful consideration of the question of Profit and Loss as involved in amateur Farming, with much valuable Advice and Instruction to those about purchasing Large or Small Places in the rural Districts. By Robert B. Roosevelt, Author of "Game Fish of North America," &c. New York: Harper & Brothers. Boston: A. Williams & Co. 1869. Price $1.50. 296 pages.

This volume is dedicated to the writers of such books as "Ten Acres Enough," and is an extravagant burlesque on their representations, as illustrated by the experience of a city lawyer in an attempt to reduce their advice and directions to practice.

CONNECTICUT STATE BOARD OF AGRICULTURE.—The following officers were elected at a meeting held June 8:—

President.—Governor Marshall Newell, Hartford.
Vice President.—Hon. E. H. Hyde, Strafford.
Executive Committee.—B. B. Plum, Trumbull; James A. Bill, Lyme; H. S. Collins, Collinsville, and Secretary Gould.

For the New England Farmer.

SEASON AND FRUIT IN CHESHIRE CO., N. H.—A NEW INSECT.

After passing one of the most peculiar of winters, we are again enjoying the charms and beauties of spring and summer.

No place on earth is more charming or more enchanting to the lover of nature than the mountains of New England at this season. Here the trees are filled with blossoms and songsters, and the air with fragrance and melody. These little warblers seemed never so plenty as this season; and God seems to have sent the antidote with the poison, for the worms and insects are very numerous, determined and active. Let there be peace on earth and good will toward *birds*, if not among men. We will spare them to go south to winter, as all their music is reserved for the spring and summer, which is the charm of the seasons. How many more martins and swallows we might have about our dwellings, if we would but furnish them with suitable accommodations! They love civilization and the haunts of man, and are one of his greatest friends.

The heavy body of snow of last winter, (which gave us 122 days of uninterrupted sleighing,) preserved the crops and trees from frost, and the prospect for all kinds of crops except the apple, is remarkably good. This season is two weeks earlier than last, and vegetation comes on rapidly. Corn, potatoes, rye, oats and barley all look well at this date. There being but little frost in the ground during the winter, the melting snow readily entered the ground, giving the grass a good start, and the continued rains have brought this crop up to a very promising condition. March being the coldest month of the winter season, the snow was kept on late, which held vegetation in check, and carried us safely past the time for severe late frosts.

The apple blossom is light, but very strong, full and well set. The trees have taken on a very heavy foliage, and are growing rapidly. They are not so likely to hold their fruit, however, as when they take on less foliage. Pears have bloomed very full and are setting well. Louise Bonne de Jersey, Superfin, Bartlett, Glout Morceau, Flemish Beauty, and Sheldon, are right on their pomolgical dignity. I have the Astrachan and Tompkins County King Apples, on dwarf stocks, but the standards bear best at same age. These dwarf trees should not be "set six or seven feet apart," as nurserymen and others recommend; mine require twelve feet at six years old. The King is a powerful grower, of the spread eagle style. The Astrachan is more compact, and makes a splendid tree.

The apple borer comes down on us this spring for a desperate fight, bringing along its natural ally, the canker worm, that the attack may be general and simultaneous.

I send you herewith specimens of these worms, and of the fly which, I think, begets them, for examination. Is it identical with the "canker worm" that does so much damage to the fruit trees in your section? This worm attacks the currant as well as the apple, and occasionally the pear. The Brown Sparrow and little Yellow Bird are diligent hunters of this worm, and should be sacredly spared for this purpose. L. L. PIERCE.

East Jaffrey, N. H., June 5, 1869.

REMARKS.—All but one of the worms enclosed were crushed and destroyed in the mail bags. Insects should always be put into a small stiff box for transportation by mail. Being satisfied that it was not the "Canker Worm," we submitted the specimens to Samuel H. Scudder, Esq., of the Boston Society of Natural History, who has examined them and kindly furnished the following statement:

"EDITOR OF NEW ENGLAND FARMER,—DEAR SIR:—The caterpillars sent by your correspondent are unknown to me, but are allied, not distantly, to the Canker Worm. The remedies, however, which check the ravages of the latter, dependent as they are in great measure upon the wingless condition of the females, will not necessarily prove effectual when appiled to this species. The moth of this enemy may have as good wings as the male. Until its complete history is known,—and this your correspondent, being in an infected district, ought to furnish to the world,—hand-picking can be used on the currant bushes, and tobacco, soap, &c., applied to the apple trees.

The "fly" which your correspondent thinks "begets" the worm, is as harmless as possible. It is one of the "May-flies," belonging to an entirely different order of insects, and its larva lives in the water. It may be laid down as a rule, to which of course there are exceptions, that the "fly" and the "worm" of the same species will *not* be found at the same time.

I have sent the single living worm which remains, to a gentleman who is especially interested in the group of moths to which it belongs, asking him to raise it. If additional specimens are sent in a pill box, we will try to learn more about them.

SAMUEL H. SCUDDER.

Boston, June 8, 1869.

For the New England Farmer.

RAISING CALVES.

In the Weekly FARMER of May 8, MONTHLY page 294, there is an item upon the subject of raising calves, by Mr. C. F. Lincoln of Woodstock, Vt., in which he gives his method, which, in my opinion, is quite erroneous, and I think will prove a failure in producing first-rate calves.

He says he never allows his calves to suck, not even once. Now, to my mind there are abundant and obvious reasons for differing with Mr. L. in this respect. In the first place, it is more natural for a calf to suck than to drink; consequently the most natural way of obtaining sustenance, is the most thrifty way. Again, I have observed that calves that are allowed to suck even a week, are less liable to be troubled with the scours than those allowed to suck a day or two, or not at all.

Mr. L. experiences less difficulty in learning them to drink, by removing them directly from the cow, and giving them their first milk from a dish. I think a calf will learn to drink quite as soon after sucking a week or two, as otherwise. The trouble, if there be any more than at first, lies in the increased strength of the calf, and the consequent increased difficulty of handling him. But let him get fairly hungry, and in nine cases out of ten, he will drink as readily at the end of one month, as at the end of one day.

I am raising a calf which sucked until eight days old, and on the night of the eighth day I held a dish of milk to his nose, and after getting a taste of it, he drank it as quickly as any calf could, and all the trouble I have since had with him has been to carry the milk to him. All calves are not so ready to drink, I will admit; but give them a fast of twenty-four or thirty-six hours and the most obstinate will generally drink from a trough, or dish of milk, placed where it can put its nose into it, and that without a finger or anything else to suck.

I must differ with friend Lincoln again in regard to his practice of turning young calves to pasture in the spring. My experience and observation induce me to believe that they do better sheltered from the sun until hot weather is over, for in my opinion the exposure to a hot, scorching sun will stunt them quicker than the cold in winter; and, besides, I think green grass unfit for them to eat. A near neighbor of mine has a steer one year old, which girts five feet and one inch, which never stepped upon the ground, and never tasted grass until this spring; and yet he was, at one week old, a small calf; being nothing more than a grade Durham, and did not have extra keeping.

In order to produce good calves, my method would be to keep them housed the first year, letting them suck four or five months, and give them a plenty of good hay and oats, or other suitable feed in proper quantities. If they are kept well and comfortably through the first winter, the succeeding spring will give us good, thrifty yearlings, which we shall not be ashamed to have our brother farmers look at.

Mr. Lincoln does not inform us whether his calves are good, bad or indifferent; he simply tells us how he avoids a great deal of trouble. I think one object should be to give them every attention while young, and endeavor to obtain good calves, irrespective of trouble. But perhaps I am in error. Will Mr. L. favor us so much as to let us know what kind of calves he gets, by adhering to his method.

WM. H. JORDAN.

Charleston, Me., May 17, 1869.

REMARKS.—In his book on "American Cattle," Mr. Allen says: "the calf should, as soon after birth as inclined, suck its dam. This is indispensable to its health, in enabling it to discharge the fœtal nutriment remaining in its stomach and bowels, and give it strength for future action. Even when it is intended to bring it up by hand, in feeding from the pail, three or four meals are all the better, and it will as readily take the finger for feeding then, as immediately after its first meal." We regret that in consequence of being mislaid, the publication of the above communication has been delayed longer than it should have been.

GENTLE TREATMENT OF COWS.

Mr. X. A. Willard, the great cheese factory man of New York, in a communication to the *Western Rural*, discourses of the importance of kind treatment of cows.

We wish it could be generally and thoroughly understood that nothing pays better in the dairy than kindness and gentleness to stock. Milch cows should be kept as quiet and comfortable as possible, and no person should be employed in milking that the animals fear.

Any undue nervous excitement not only lessens the quantity, but depreciates the quality of milk. Sometimes cows take a dislike to their milker and in such cases a change should be made, otherwise there is liability of the cow falling off in her milk. We have seen cases of this kind and although such freaks are quite unaccountable, it will always be found better to change the milker, if possible, rather than to attempt to conquer this peculiarity.

We do not approve the practice common with some dairymen of the milkers milking the cows indiscriminately. The hands should each select a certain number of cows and continue to milk them from day to day throughout the season. The hours of milking should be regular and each cow should be milked in regular order. The milk should be drawn rapidly and to the last drop, and all loud talking singing and wrangling avoided. These are little things in themselves and may seem to many to be "over-nice." There was a time when we thought so, but repeated and well-conducted experiments have convinced us that they are important points to be attended to, and must be observed to obtain the best results.

We always insist that the milkers study the disposition of the cows under their charge, that they become familiar or perfectly acquainted with each animal, patting them or in other ways making them understand that you are friendly and fond of them. When once their confidence has been obtained in this way, they will exhibit affection in return and will yield in the increased quantity of milk more than enough to pay for the time and trouble given to the purpose indicated. Some cows are extremely nervous and excitable; such require extra caution and attention in management, otherwise they soon become worthless for the dairy.

In driving cattle from the pasture to the stable they should never be hurried or made to go faster than a walk. Good cows at this season have well filled udders, which makes it painful to move over the ground faster than a walk. Besides in warm weather by hurrying the animal there is always danger of overheating her blood and milk, and thus not only injuring it but all the other milk with which it comes in contact. Dogs should never be allowed in a dairy. They are the source of infinite mischief.

In all our observations we have never yet met with a strictly first class dairy of cheese where the cows were dogged from the pasture to the stable. What we desire to impress upon the minds of farmers is that these truths should be understood not only in the abstract, but that they be immediately carried into practice. Neither good butter nor good cheese can be made from diseased milk, nor can good milk be had from diseased cows.

HALTER BREAK YOUNG COLTS.

Any time after a colt is two weeks old, he should be halter broke, so that when the dam is in use, either upon the road or farm, he may be kept at her side or secured in the stable. The halter may be put on with little trouble in the stable. Have the mother harnessed, and hitch the halter strap to the hame ring, not giving more than two feet play room; then lead the dam out, and the colt will be obliged to follow, and will soon give up.

Any young animal will submit to coercion, if the force appears to be the will of the parent. For this reason we do not approve of halter-breaking young colts by hauling them, or being hauled about by them.

Every person who drives his team upon the highway, the colt to follow at will, experiences more trouble by having it follow off other horses, or getting lost from the dam, than to ten times pay the expense of a halter and halter-breaking; and besides it is not safe or profitable when using the mare in hot weather, to allow the colt to suck at any time he may choose. Colts are easily injured by taking heated milk, and do not recover from the effects for a year or more—in fact, never get entirely over it, for they become reduced in flesh, get lousy, shed their hair, and barely pass through the first year of their existence, which is the most critical period of their growth and development. An inferior yearling is not usually chosen to bring up into a good horse.

There is just as much profit in having the colt under subjection while the dam is in use upon the farm, as when driven upon the road The same trouble, and perhaps more frequently, may arise from heated milk while performing heavy work; and there are, also, many chances for the animal to injure itself, if at liberty, by attempting to jump over harrows or mowing machines while they are in motion. Crops are often injured by colts unhaltered when the mother is drawing the cultivator in the corn field.

Even if the colt is usually to be kept in the barn while the dam is in the harness, it is better to have him subjected to the use of the halter; for then he may be taken, when the case requires it, to the village, and kept where he belongs, or tied to the fence while the team is in the field at work. If a colt is to be left in the stable during the day, while the mare is put to hard work, or driven a long distance, let him fill himself before the mother is harnessed, and on her return, kept away, if the mare's blood is heated, until it has cooled off. The milk of the dam should be drawn with the fingers, once or twice during the day, in absence of the colt.—*Ohio Farmer.*

LAWNS.

A firm, velvety, elastic turf for a front yard or lawn we regard as one of the most beautiful of all the outward adornments of a home. But in consequence of the violence of our climate it is undoubtedly more difficult to keep a lawn in good order in this country than it is in England, and hence perhaps the popularity of trees and shrubbery, which sometimes make our dwellings look as though their occupants were reverting to the tastes of the aborigines. We are glad to see evidences of a change of fashion in this respect. Lawns are becoming more common, and we think many will be interested in the following statement of Prof. Eastman of Commercial College fame, who has recently fitted up extensive pleasure grounds in connection with his residence in Poughkeepsie, N. Y., especially as his plan is as applicable to a small yard as to a broad lawn. We copy from an article in the *Dutchess, N. Y. Farmer*:—

I read much on the subject, before I made my first attempt, determined that the work should be well and intelligently done. I then commenced operations by draining, trenching, subsoiling, manuring, grading, ploughing, spreading Plaster of Paris and Peruvian Guano, harrowing, picking off the stones and coarse lots of earth, and finally sowing seeds of the best mixture and quality bountifully; raked again, rolled it and waited for the result. I had followed directions to the letter, at an extravagant expense, and expected to have a perfect lawn in a very short time. I have now waited four years and find it far from what I had reasonably expected it would be the next season. I have added greatly to the expense each year by weeding, re-seeding, filling up the uneven places, &c., &c., but my disappointment at the result has been more than all.

The next season I concluded to lay down four acres more, and to try another plan. I omitted two-thirds of the labor I had expended on the first lawn, and one-half the expense in manure and fertilizers. I simply ploughed the ground deep, manured it as thoroughly as for a garden crop, graded and removed all stones and rubbish. I then purchased, for a small sum, from the farmers near the city, sod enough to cover the whole four acres. I selected this sod from low, mucky places, in ravines and between the hills from ground that had long been in grass. Selecting the sod from these uncultivated places enabled me to get just what I required, a sod of fine velvety grass, free from weeds and of unequalled richness, at a small expense. I prepared at small expense a cutter resembling a corn marker, except the teeth were of iron and thin and sharp. With this I cut the sod in strips a foot wide and eighteen inches long. Then with spades lifted them from the ground at a uniform thickness of two inches. These were at once carted to the ground already prepared, and laid down as evenly and firmly as possible and with much less expense, labor and time than would be supposed, the entire lot was covered. I then rolled it thoroughly with a heavy roller. The sod being two inches in thickness showed no signs of being transplanted, and in three weeks from the time they were laid it presented a firm and even surface. I then mowed the lawn with a scythe and a week later went over it with my lawn mower. This lawn has now been down for three years and speaks for itself. Suffice it to say it is a perfect success. It is the first to respond to Nature's call in the spring, and the last to yield to her demands in the fall.

It has never been weeded but once, and has been cut from two to three times a week during the summer season with a lawn mower, and grows more beautiful and perfect every day. It is regularly top-dressed every fall with long horse manure.

The above method has been tried by quite a number on a large and small scale and found to succeed most admirably. After a careful estimate of the expense incurred in making the two lawns, I found a large balance in favor of the latter, to say nothing of the vexations and delay caused by the first plan. The two inches of sod was equal to a two-inch dressing of manure, and the saving in this respect alone, to say nothing of seed and extra labor, was almost equal to the expense of sodding."

AGRICULTURAL ITEMS.

—Mr. Justin S. Davis, of South Reading, Vt., has lost one hundred and fifty-three sheep the past winter.

—Benjamin Wakefield, of Lyndon, Vt., lost a cow last week from the effects of eating poison set for woodchucks.

—A correspondent of the American Institute Farmer's Club says that for removing knots from plum trees, he takes a paint brush, dips it in spirits of turpentine and thoroughly saturates the knot, being careful not to touch the tree except in the diseased parts. The turpentine kills the excresence and the trees put out healthy branches below it. He burns all branches of diseased trees removed in pruning.

—Half a dozen eggs beat up with two ounces of salt, is recommended as a sure relief of cattle choked with a potato or an apple, by a correspondent of the *Country Gentleman.*

—It is estimated that the maple sugar product of Michigan this year is one-third larger than ever before; or some 7,000,000 pounds, which at 16 cents, would amount to $1,120,000.

—The *Rural New Yorker* concludes that our cities are less prosperous than of late years, with few indications of improvement, while the country is in a comparatively progressive and enviable condition.

—The *Gardener's Monthly*, in speaking of the nasty rose slug and the rose bug, says all through the garden handpicking and watchfulness will be found the best remedy for all the larger class of insects.

—Potato speculators in some sections of the country have been badly bitten this season. A Michigan paper says that farmers in portions of the State have been obliged to sell potatoes at fifteen cents per bushel, for which they refused $1.50 last fall, and that with very large stocks on hand.

—A correspondent of the *Country Gentleman* in an article on raising wheat says, "If the farmers of this State would try one-half as hard to raise their own bread, as some of them do to raise fast horses to spoil their children with, we should soon hear the last of importing wheat from the West."

—A Southern paper says mosquitoes may be driven from a room by placing a piece of gum camphor, one-third the size of a common egg, in a tin vessel and evaporating it by holding it over a lamp, taking care it does not ignite. The smoke will fill the room and expel the mosquitoes.

—At the Newcastle, Eng., Farmers' Club, Mr. Throckly gave six good rules for beef raisers: 1. Never buy a bad bred beast. 2. Cheap bought is half sold. 3. Feed the best food. 4. Give it regularly, and clean. 5. Keep them warm and dry. 6. Sell as soon as fat.

—A correspondent of the *Germantown Telegraph* says that he knows a first-class farmer who cultivated his fence corners, or rather land which the plough would not reach along the fences, in grass, and found that the product met all the expenses, and his fields suffered very little from weeds.

—Maj. S. Dill, of Phillips, Me., writes to the *Maine Farmer*, that "Sheep still continue to 'kick the bucket,' notwithstanding they have got out to grass. Quite a lot of farmers have lost half their flocks. One farmer remarked that he had lost fifteen out of thirty-one, another replied that he could beat that, for he had lost eighteen out of twenty-eight. I believe worms in the head to be the chief cause. I saw one head opened which contained five large grubs or worms."

—To prevent inflammation and soreness in a foot wounded by a rusty nail, a correspondent of the *Germantown Telegraph* says as soon as possible after the foot is hurt put some hot ashes in half a pail of water and immerse the foot in water while as hot as can be to be comfortable, and keep it in half an hour.

—A Virginia correspondent of the *Rural New Yorker* has fed his horses a raw potato once or twice a week for the past twelve years, and they have never been troubled with the ascarides or pin worms. His grandfather, who had an extensive experience with horses, considered it a sure preventive.

—The *Toronto Globe* gives a description of a successful "Minkery" at Patterson, Can. An acre of land is enclosed by a close high fence. Buildings and fixtures are somewhat expensive, but it is claimed that with skins at four or five dollars each the establishment is profitable. They are fed on liver, hearts, lights, &c., which a butcher furnishes at a dollar a mink per year.

—The Lewiston, Me., *Journal* thus describes a new apple. "Among the productions of Franklin county which are spoken highly of is the Deane apple, known sometimes under the name of the nine ounce apple. It is described as an excellent, fine looking and eating apple, of large size, and will keep on shelves till February. The tree spreads low, and is hardy. It seems to be a great favorite among those who cultivate it. It originated, we believe, in Temple."

—A correspondent of the *Prairie Farmer* says, take up a dozen or so of your cabbage plants as soon as they are large enough, without regard to the weather, and take them to the place you wish to set. Have a dish of rain water with you. Make a hole and put in your plant, fill in the dirt and press it firmly around the roots until the hole is nearly full. Then turn in half a gill or so of water, and haul fresh dirt upon that, but do not press it. This will prevent the ground from baking, and the plant is almost sure to grow.

—Mr. N. M. Carpenter, of Ellington, N. Y., contributes to the New York Farmer's Club the following cure of flatulent colic in horses, a disease of which he thinks horsemen are sadly ignorant, and the fatal results of which he believes are frequently ascribed to bots. He says: "Take a piece of old or worthless cotton cloth, set it on fire in such a manner that it will not blaze, but will smoke well; throw a blanket over the horse's head, so as to confine the smoke about the nostrils as much as possible; continue to apply the smoke 10 or 15 minutes, which seems to act as an anti-spasmodic, and, so far as I know, has never failed to give relief, although the second application has been required sometimes, in very bad cases, to render the cure permanent."

EXTRACTS AND REPLIES.

APPLE TREE BORERS.

Can you tell me the best remedy for *borers* in apple trees? I find places in my trees as if they were bored with a gimlet, where I suppose the borers have gone in. It is impossible to get at them, even with wire. DEDHAM FARMER.

Dedham, Mass., June 11, 1869.

REMARKS.—Those smooth round holes in your trees, which look as if bored with a gimlet, are the places where the borer left, after having spent some two years in their trunks, excavating a tunnel without legislative aid, and preparing himself for that perfect state of a winged beetle in which he left your tree. If the *Saperda bivittata* ever laughs, he probably does so when he sees a person closing up this orifice, or fishing therein for his poor body, now clothed with feathers and wings. This beetle deposits its eggs, as described by Mr. Hersey in the FARMER of May 22, on the soft bark near the ground in June and July, from which a small worm soon hatches and eats through the bark, where it passes the first winter. Here it remains about a year, when its jaws become strong enough to cut into the solid wood. Stopping up this end of his hole, at this time, as directed by "Zen," in the FARMER of June 19, or probing with a wire, may be effective. But the best time to destroy them is before they enter the wood.

KINDNESS TO ANIMALS PROFITABLE.

I am very glad to hear so much said in the FARMER, in regard to kindness to animals. I believe many valuable heifers have been ruined by harsh treatment. My father raised a great many heifers, and my mother always took it upon her to break them. I have seen her stand in a stooping posture half an hour at a time trying to milk a kicking heifer. In one case that I particularly remember, the heifer would stand on three legs and kick at her as fast as she could make her feet fly. After getting tired of standing on three legs, she would put her foot down, but at the moment mother commenced milking she would commence kicking. All this time mother would wait patiently, still holding the teat in her hand, ready to milk as soon as the heifer put her foot down. Mother would not allow any one to speak a harsh word to the provoking animal, much less to give it a blow. As soon as the heifer became satisfied that no one wished to hurt her, she gave up, and would let any of us sit down and milk with both hands. I do think a cow will give more and better milk if she feels perfectly at ease, and can regard every one about her as a friend, than one that expects a kick or a blow from all who come near her. J. P. P.

North Weare, N. H., June 4, 1869.

REMARKS.—The grand secret of the successful training of animals can be learned, we think, from a single sentence in this article. Just think what a kicking creature the writer is speaking of. She would stand on three legs and strike with all her might till fairly tired out. Some boys would have given her a "course of sprouts" that would have resulted in a confirmed kicker. But not so with our correspondent's good mother. She would not allow even a cross word to be spoken. Then comes the sentence in which the "grand secret" we have spoken of is imbedded,—"As soon as the heifer became satisfied that no one wished to hurt her, she gave up, and would let any of us set down and milk with both hands." Boys, do you "see it?"

HAY MAKING.

From my experience in growing grass and making hay I have been led to adopt the following system. My land generally remains in grass four or five years. I spread no manure on my grass land, as I find my stock eats new meadow hay best. I plough in my manure. I sow no clover seed. I commence haying very early, and though I use a mowing machine, it is rather late by the time I get through. The mower is started after the dew is off in the morning, and runs until noon. The tedder is then put into the field, and the grass thoroughly shaken up. After which the horse is fed and rested half an hour. Then the tedder runs an hour or more, when I change for the horse rake, and put the hay into windrows. These are thrown into large heaps and covered with caps two yards square. I give my hay from two to three sunnings; stirring it diligently from three to four o'clock in the afternoon. My object being to make it as fast as I can and make it well. Then I want to put it into the barn, and I want the barn as tight as a stone jug with the stopple out. I do not approve of a cellar under the hay, or of any draft of air through it, as it ought to be so well cured before being housed that it will not be injured by the sweating process, to which all hay is subjected in the mow, though it may be so thoroughly dried that you may think there is no moisture in it.

E. G. TURNER.

New Bedford, Mass., June 5, 1869.

REMEDY FOR KICKING COW FOUND.

Last winter I made inquiries through the FARMER for a remedy for a kicking cow. Among the many replies were one from O. C. Wait, West Georgia, Vt., and another from R. Parker, Corinth, Vt. My cow being dry at the time they were published, I had no opportunity to try either remedy until she dropped her calf this spring. As Mr. Wait wished me to report progress through the FARMER for the benefit of those similarly afflicted, I will state how his remedy has worked on my cow, one of the worst kickers that I ever fell in with in all my life. I could not make the least attempt to take hold of her teats without receiving a kick, and all caused by the brutal treatment of a drunken vagabond, in the shape of a man, who had to sell her for about one-third of what she would have brought providing she had been treated kindly and gently.

After she dropped her calf this spring, I first thought that I would build one of Mr. Parker's "fiddles," as his boys called it, which I know must prevent any cow from kicking; but not having the lumber at hand, I concluded to try Mr. Wait's remedy. Having an old harness-saddle on hand, I put the cow in the stanchion, laid the saddle on her back as gentle as possible and by the help of one of my boys, worked it aft close to the forward part of her hips; then brought the strap under her belly just forward of her udder, and drew it through the buckle with a quick and firm pull. It took the kick out of her in an instant. She never has offered to lift a foot to kick when the saddle was on her back. Now she is so far subdued that all I have to do is to lay the saddle on her back, sit down and milk away without fear of being kicked over, and having the milk pail spoiled. This one simple remedy for a kicking cow is worth many years' subscription price of the FARMER, for it has enhanced the value of my cow in my estimation thirty dollars at least.

E. LEONARD.

Long Plain, Mass., June 9, 1869.

PLANT PROTECTOR.

Mr. James R. Pierce, of Worcester, who has an acre of land planted with squashes, informs us that he has been entirely successful for two seasons in protecting his plants by throwing over them loosely a bit of common mosquito cloth, from 18 to 20 inches square, confining the corners and edges by small stones, lumps of earth, &c. This admits light and heat, perfectly. As the plants grow he occasionally loosens the cloth, and sprinkles a little plaster about the plants. As it is not necessary to keep the coverings out more than three or four weeks, he thinks the cloth will last many years. On removing them he rinses off the dirt, dries the cloth and puts them away for another year.

RINGBONE ON A COLT.

Can you or some of your subscribers inform me if there is anything that can be done to help a colt that has ringbones on all four of his feet? I have a yearling colt that gave promise last fall of being a fine one, but sometime during the winter I noticed bunches on each of his feet, and am told that they are ringbones, or clingfasts. He was quite lame with one of his hind feet in the winter, but since he has been out to grass, and has not stood on a plank floor, (which he did last winter,) he is not lame in any of his feet. Is there any difference between a clingfast and a ringbone? If you or any of your subscribers know of anything that will cure or help him, you will oblige a subscriber by communicating it through the columns of the FARMER. G. E. H.

Shrewsbury, Mass., June 9, 1869.

REMARKS.—The best horse we ever owned, we lost by ringbone, It did not occur until the horse was twelve years old, and was undoubtedly occasioned by injudicious overloading. Ringbone is a bony tumor, or a deposit of bony matter in one of the pasterns and usually near the joint. It spreads, includes the pastern bones, encircles the cartilages of the foot, and thus gets the name of *ringbone*. The disease is sometimes hereditary, but usually comes from a strain, or in colts, by curveting, turning suddenly or by violent galloping. The methods of cure are somewhat various. In Dr. Dadd's "Horse Doctor," he says:—We treat the disease, when first discovered, by cooling, evaporating lotions, cold water bandages, &c.; rest is of importance. To control inflammatory action, and by that means lessen pain and irritation within or around a joint, should be our first business; from this great benefit is sometimes derived. In chronic cases we use acetate of cantharides, applied daily, until the parts appear hot and tender; we then substitute cold water bandages, and repeat the process if necessary.

Mr. *Spooner*, in his Notes to Youatt's Structure and Diseases of the Horse, says the best treatment for ringbone is, after the inflammation has been in great measure removed by cooling applications —to rub the part well in the *iodide of mercury ointment*, washing off the effects on the following day, and thus repeating it again and again.

Mayhew, in his "Illustrated Horse Doctor," recommends the use of the following:—Iodide of lead one ounce, simple ointment eight ounces,— mix and apply with friction.

After all, if your colt does not recover on being removed from the plank floor and running in the pasture, the probablity is that it will be cheaper, and afford many more chances of a cure by calling in a regular practitioner, and following his prescriptions.

STOPPED TEAT OF A COW—BUCKWHEAT STRAW.

I have a valuable heifer which has lately dropped her first calf, and I find on milking her that with hard pressure I can force but the smallest possible stream from one teat, while the others are all right. Can you or any of your correspondents inform me how I can enlarge the orifice, as I fear I shall have to make beef of her if no remedy can be found.

What shall I do with my buckwheat straw? I have seen it stated that it is not fit to use as bedding for cattle or hogs.

A FARMER AND SUBSCRIBER.

Somerset, Mass,, June 21, 1869.

REMARKS.—The orifice through which the milk passes is sometimes contracted by malformation, or by being trodden upon. Mr. W. I. Simonds of Roxbury, Vt., stated a few years ago in the FARMER that he had been successful in treating such a case by working a knitting-needle into the teat, in the first place, and then inserting the quill end of a hen's feather after cutting off most of the feather end and winding a waxed thread firmly round to prevent it from slipping in too far. By keeping this in a few days, except when milking, the difficulty was removed. But if such measures prove ineffectual, a lancet is sometimes used. We have known a suitably formed penknife used, or one part of a pair of scissors after being ground sharp on both edges. Take hold of the teat with the fingers of the left hand, holding the narrow blade with the thumb and finger of the right hand, and with a quick but gentle push cut the orifice so that a free stream of milk will flow out. Heifers often milk hard, which afterwards become easy milkers. But we can recommend the lancet only in extreme cases.

Who will answer the question about the buckwheat straw?

ELEMENTS OF GRAIN AND POTATOES.

Will you please to inform me through your valuable paper how much, or how great a proportion of carbonate of potassa is contained in or required for every one hundred pounds of wheat, oats, corn or potatoes, and oblige an old subscriber.

Rockingham, Vt., May 24, 1869. G. C. B.

REMARKS.—Prof. Samuel W. Johnson gives very full tables of the composition of agricultural plants and products in his new work entitled "How Crops Grow." Those who are curious in these matters will find this volume interesting and instructive. We regard it as decidedly the best work of the kind published in this country. It is sold for $2. You will there find the amount of potash in a great variety of grains, straw, manufactured products, &c.

From the table which gives the average quantity of water, sulphur, ash and ash ingredients in 1000 parts of the fresh or air-dried substance, by Prof. Wolf, you will find the amount of potash stated as follows:—

	Grain.	*Straw.*
Wheat	5.5	4 9
Oats	4.2	9.7
Maize	3 3	16.6
Potatoes	5 6	—

In Stephen's Farmers' Guide it is estimated that a crop of wheat of twenty-five bushels of grain and 3000 pounds of straw removes 29½ pounds of potash.

A crop of fifty bushels of oats and 3800 pounds of straw removes 75½ pounds of potash and soda.

A crop of eight tons of potatoes and 1000 pounds of tops removes 273 pounds of potash.

CHERRY POISON.

I am impelled to write a bit of experience, thinking it may benefit others. I must begin back a year in order to give the subject a fair showing, and if the facts appear conclusive, I hope other papers that circulate among farmers will copy. About a year since I called on a friend in Waitsfield who had a sick cow and was doctoring it for the horn ail, the general symptoms being considered proof of the presence of that disease. Among other things he had applied turpentine on the top of the cow's head, which was shivering or trembling badly, and evidently suffering very much. Soon after I returned home, a cow in my herd, for which I had paid a hundred dollars a little while before, was suddenly taken sick, showing the same general symptoms, namely, sudden drying up of milk, great stupor, loss of appetite, glassiness of the eyes, coldness of the horns, &c. Not knowing what to do I did not do much. I tried a little spirits of turpentine on the head. This made a bad matter worse, causing great distress and even shivering. I immediately and carefully washed it off with warm soap suds. To tempt her to feed she was turned into a fresh pasture, and in a few days she fully recovered.

Last Monday I turned my cows into a fresh pasture and left home for a few days. I returned late Thursday night to find two of my choice cows sick with nearly the same symptoms as were exhibited last year by those abovementioned. In the present case, however, the udders were swollen more or less, and what little milk could be drawn resembled what is commonly called "gargety milk;" being thick and stringy. The next day, (Friday,) I turned them into another pasture; at which time another of my cows showed some symptoms of the same disease in her udder, but had not lost her appetite. All are now improving slowly.

I have discovered in a hedge growing in my neighbor's field a large number of small black cherry trees standing so near the fence that my cows have reached over and trimmed the tops as far as they could reach. Perhaps they would not have eaten them had there been other bushes they could reach, but there were none. I have often noticed that when pastured on clear grass, where there are no bushes, cows become exceeding hungry for browse. Now I have no doubt about the cause of the difficulty, and I think the Waitsfield cow was sick from the same cause, though I am not positive that there was a chance for her to eat black cherry in the pasture in which she was kept.

Roxbury, Vt., June 20, 1869. W. I. Simonds.

SEEDING WITH FODDER CORN.—CLOVER SOWN IN AUGUST.

We have sowed corn broadcast upon land well manured, and have haprowed it in with grass seed, clover, herdsgrass and redtop. The corn and grass have started well together. Will the corn kill the grass?

Will clover sowed in August make roots strong enough to live through the winter? F.

Mast Yard, N. H., June 21, 1869.

Remarks.—We fear that your young grass will have a tough battle with the corn. But your experiment will be worth more than a mere opinion.

If the snow should cover your August clover early, keep the field blanketed all winter and remain late in the spring, it might do; but we doubt whether it would live through an open winter. What say, old clover growers?

YELLOW WATER IN A HORSE.

What is the best remedy for yellow water in a horse? F. M. H.

Bennington, Vt., June, 1869.

Remarks.—The disease called "Yellow Water" is one form of jaundice. We have never seen a case, and can only speak of it as we gather information from those who have seen and treated it. It is a disease of the liver; its excretions are interrupted, and scattered over the whole system. The water is not only discolored, but it may be seen in the eyes, mouth, and on the skin where it is not covered with hair. It must be treated as a liver disease, but it ought to be under the care of a physician.

AN ARTISTIC FARMER.

About two miles from the centre of the fine agricultural town of Barre, Mass., resides a farmer whose house is a museum of Yankee whittlings. His name is Piper, a most significant and suggestive one, surely, in this instance.

Calling there a few weeks since, the writer begged permission to see these curiosities. A crank organ playing perhaps some twelve or fifteen tunes was first set in motion. An Ethiopian band in the upper story went through the manipulations of minstrelsy, while a gay company of mimic ladies and gents tripped on the "light fantastic toe" below.

Next in order was a large glass cabinet, the shelves of which were crowded with articles of the most elaborate workmanship, such as fans, dogs, cats, snakes, &c. To make this part of the museum perfect the jack knife that whittled them should have been there. However the head was —at least on the outside—which was better still.

Another crank organ playing a number of tunes, set two Ethiopian puppet minstrels vigorously to work in a clog dance. The little fellows rattled on the spring board so noisily that a married daughter of Mr. Piper, sitting in the room, requested him to desist, lest it might awaken a child lying in a cradle near her, and another *pipe* of a less melodious cast, be added to the concert. The grandmother, also sitting near, commenced rocking the cradle, when, lo! a tune was played in harmonious numbers that again composed the child to slumber. By an ingenious adjustment this rocking organ played seven tunes, the machinery of which lay packed away behind the occupant's head, ready to do office when called.

We were next ushered into the parlor. A child's wagon stood in the way. In removing it it commenced a tune. How many more were concealed behind we did not inquire, but should not have been surprised on sitting down in a rocking chair, to hear it emit musical sounds. Four centre tables were ranged on one side of the room of a most beautiful pattern, and the most elaborate workmanship and artistic skill, which merit a brief description. The largest has 4000 pieces of eight different kinds of wood worked into the face of it, in which is wrought Bennet's country seat, surrounded by appropriate shrubbery and trees. Next is one a trifle smaller with 2800 pieces, in which appears Barnum's country seat at Bridgport, also worked with various woods, adorned in the same manner, and imparting to it a life-like glow and beauty. The third is smaller still, with 2200 pieces, and viewed separately would be considered a highly wrought work of art. The fourth is of the size of a light-stand, having 100 pieces very unique.

Other curiosities of less attraction to be found here, are passed over, but a visit will amply repay the trouble to all who have the desire to witness what the ingenuity of man may compass. How many organs and fiddles he has constructed during the long winter evenings of the sixty-eight years he has lived on this earth, we know not; but judging from the number of articles he has made, he must have commenced very young or been very industrious. D. W. Heywood.

Barre, Mass., June 23, 1869.

WHEN DO BEES SELECT THEIR HOMES?

A swarm of bees were lost soon after they were carried out in the spring. The hive containing the comb was not moved. On the 8th of June, bees were noticed about the hive,—only a few, however. The hive was not noticed again until the 13th, when there were apparently as many bees about the entrance as there were at the hives containing good working swarms. After the bees had done work for the day, the hive was examined and found to contain but a few bees,—among them some drones,—perhaps not one hundred workers and drones together. On the 14th of June, a good large swarm took possession of the hive, and have remained at work. Will some one versed in bee-ology tell us when the bees find their new homes? Is it before or after swarming?

Mast Yard, N. H., June 20, 1869. P.

DECOCTION OF OAK BARK FOR WARTS.

If "B. B." in a late number of the New England Farmer, has not found a remedy to cure the warts on his heifer, please tell him to try white oak bark. Boil the strength out of the bark and then boil the liquid down very strong, almost to a syrup, and put a very little on each wart, just enough to wet it. J. P. P.

North Weare, N. H., June 4, 1869.

AGRICULTURAL ITEMS.

—The Iowa Agricultural College is five stories high, and contains over one hundred rooms; the farm 648 acres.

—A correspondent of the *Canada Farmer* who sold the milk from twenty-six cows to a cheese factory last year, commenced feeding corn on the last of July from an acre planted in drills. In September he omitted the corn for four days, and the result was a diminution of fifty-two pounds of milk a day. The corn feeding was again resumed, and in four days the cows gave their customary quantity of milk.

—The value of Canadian cattle exported into the United States during the first three months of 1869 was $286,252—nearly double the value of those exported during the same period of 1868.

—Dry wood ashes sprinkled lightly from a fine sieve upon turnips is good to keep off insects. When applied by the hand enough is often thrown upon them to injure the tender plant. Hold the sieve low and simply dust the leaves.

—An old stable keeper in England says he has never had a bad foot on his horses since he commenced the practice of bedding on a thick layer of sawdust. Pine sawdust he finds the best, oak the worst.

—The *Tribune* says, a farmer in Ohio had a thrifty orchard which blossomed freely, but bore no fruit. He washed twelve of the trees once a week with strong soap suds, and was gratified by a fair harvest the subsequent season.

—A shrewd farmer in the Vermont Legislature declined answering the speech of a member who was remarkable for nothing but frothy and pugnacious impudence and self-conceit, thus: "Mr. Speaker, I can't reply to that ere speech, for it always wrenches me terribly to kick at nothing."

—A daughter of Samuel Clark, of Starksboro, Vt., aged six years was recently poisoned by eating arsenic. The mother being absent when the child returned from school, she went into the cellar, and picked up and eat a piece of bread and butter that had been sprinkled with arsenic and left for rats.

—Mr. Joseph Harris expresses the opinion that indigestion is the source of nearly all ordinary complaints in horses, and that this is brought on by irregular feeding and watering; by exposure, fatigue, by long journeys without food, in a storm, and then by over-feeding and neglecting to rub them dry before leaving them for the night.

—During a cold storm on the night of May 28, a farmer near Ipswich, England, lost 216 out of 300 ewes that had been turned on the unsheltered marsh lands just after having been shorn. Their carcases were found the next morning in heaps where they had huddled together in the vain attempt to keep warm.

—A small tablespoonful of kerosene oil mixed with one quart of ground corn and whole buckwheat mixed with skimmed milk or water, is recommended for gapes in chickens by one correspondent of the *Country Gentleman*, while another puts a small pinch of fine tobacco in the mouth of the patient with water to wash it down. This loosens the worms which are either sneezed out or swallowed.

For the New England Farmer.

CHEESE DAIRIES IN BARRE, MASS.

Statistics of cheese manufacture—Adaptation of Soil—Attention given to Manures—Durham and other Stock—Notice of excellent Farmers—Mr. Bates' Fruit Farm—Tile draining—Feeding Cows—Fairs and Fair-grounds of the Worcester West Agricultural Society.

As Barre may be considered the banner town in the Commonwealth as regards this branch of the dairy, it may interest your readers to know what its farmers and cheese factories are doing. The high prices that Barre cheese have commanded in the market for many years past, the superiority of its grazing lands, and its magnificent stock, justly entitle it to this precedence, and show that "blood" tells as well as grass,—more especially when it is considered—"all flesh is grass." The farmers of this region are all of a practical character, who regard "fancy farming" as of little moment, but yet who hold "book knowledge" in the highest esteem.

There are three cheese factories doing a thriving business within the town limits, viz: "The Barre Central Cheese Factory," situated in the centre of the town; "The Barre Cheese Company" (south), located in the southern part, known as Barre Plains; and the "Barre Southwest Cheese Company," a private organization placed on the farm of Joel B. Hinckley in the southwest of the town. From a recent visit to each of these factories, your correspondent has gleaned the following information from the superintendents:—

"The Barre Central," which is in charge of Mrs. Hinckley, has about 450 cows, is in receipt of 13,500 pounds of milk daily, and on the 19th inst., 1429 pounds of cheese were made. Three hands are employed here, who commence at 4, A. M. and close their labors at about the same hour, P. M.

The "South" Factory, under the superintendence of Abner R. Mott, has 275 cows, receives 8000 pounds of milk *per diem*, and turns off a relative amount of cheese.

The "Southwest," in charge of Nathan C. Haynes, which is not an incorporated company as before intimated, has about 150 cows, receives some 4300 pounds of milk daily, and produces a relative amount of cheese.

The whole may be summed up in round numbers as follows: 875 cows; 25,800 pounds of milk received daily; 2900 pounds of cheese manufactured daily, which was sold in the market this season, at first, for 25 cents, and lastly for 23 cents per pound.

It will be seen by the relative statements in regard to the milk received, that the South and Southwest factories average a mere fraction under 30 pounds to the cow, while the Barre Central averages a fraction above 28 pounds. This difference may be accounted for in this wise:—the south district has large dairies, mostly consisting of 25 cows to the herd—several exceeding that number, while its grazing lands are of a rich soil, fronting to the east, and upon which no pains has been spared to bring it up to the highest condition.

The art of making manures has been reduced to a science. In years past it has been made one of the specialties of the Agricultural Fair (Worcester West) and perhaps no one has given the subject closer analysis and more careful study than T. P. Root, a leading farmer in the southern district, whose able reports in times past were worthy of preservation in the manuals of agriculture. Near Mr. Root, are the Cooks, father and sons, who have 30 cows, but do not carry their milk to any factory. They have two cows, which, if we remember rightly, have given between 50 and 60 pounds of milk apiece for several successive days at a time.

The stock to all these farms are carefully selected, mostly of the Durham grade, with a sprinkling of Jerseys, Ayrshires and Holland Dutch—of the respective merits of which, the limits of this article will not permit a further description.

There are many highly cultured farms in this town that reflect the highest degree of credit upon their owners, which we should be glad to notice, did space allow; but we cannot forbear mentioning a few which give the highest yield of milk. The dairies of A. H. Holland, T. P. Root, Wm. R. Barrett, Isaac Smith, Luke Adams, John T. Ellsworth, and others, stand at the head. One of the most valuable fruit farms is the "Kendall Farm," now owned and occupied by Simpson E. Bates, there being over 600 trees—apple and pear—nearly all in a bearing condition. There is lacking but one thing, we conceive, to make this the most valuable farm in the town, which is tile-draining, a subject which is seriously gaining the attention of the farmers generally. The fruit trees on this place are worthy of especial note to all who visit this region, both the amateur or "fancy farmer," and the practical farmer.

The natural impression of many readers, undoubtedly, in reading this article, is that to keep up these cows to the maximum condition, esculents, such as roots and meal would be freely dealt out during the fodder months. But this is not the prevailing practice. In the spring, especially, all the hay is given them and more than they can eat at a time, and the remainder is converted into cut feed, with sufficient meal to make it palatable. The high standard of these dairies is simply owing to soil, manures, and carefully selected stock.

The Worcester West Agricultural Society have beautiful and commodious grounds, a fine track and hall, and draw at the annual Fair large contributions from the neighboring towns. Your correspondent would be pleased to speak, in a subsequent communication, of several of these same towns, who range highest in the scale of agricultural pursuits.

A brief notice of Bullard's Hay Tedder, originating from this town, and also of Dr. Allen's Stump Puller, would have been given had the limits of this article permitted.

D. W. HEYWOOD.

Barre, Mass., June 23, 1869.

For the New England Farmer.

STRAY THOUGHTS OF A FARMER.

This being a dark and rainy morning, I am shut in-doors, and being in somewhat of a musing mood, I have concluded to put my thoughts on paper, and if worth anything to the public, use them,—if not, consign them to the waste basket.

It is painful to look on our New England hills and valleys and to see our pastures and fields covered with thin, scanty crops, where fifty years ago rich harvests were gathered, our farmers purchasing their flour and corn from the West, paying freight over a distance of a *thousand miles*, with commissions and merchants' profits, while at the same time we are continually saluted with complaints that "farming does not pay." But here there must be something wrong,—something out of shape "in the premises," as the old Justice used to say. No particle of matter has been destroyed since this globe first commenced its journey round the sun; but the particles of *manurial matter* that go to make our crops have become most sadly displaced on most of our farms. The same loving atmosphere still encloses the earth that was enjoyed by our fathers, abounding in ninety per cent. or more of plant-forming material. We have also the glorious sun of our fathers, shining with all his power, as he well knows how to in a New England summer; and we have furthermore, "the early and latter rain;" so that there seems to be no lack of material, only of the skill to compound and put together.

I am not a believer in the immediate ushering in of the agricultural millennium, for there are only a few farmers who learn anything in relation to their calling after forty; scarcely any, after fifty,—of those who have made farming a life-pursuit. Farmers in New England are now in about the same situation that those of England were one hundred years ago. Their wheat crop then averaged about ten bushels per acre. But since that period they have applied brains to their soil and the crop of wheat has risen to over thirty bushels throughout the kingdom, though the soil has become a hundred years older.

As agriculture languishes, so will all the mechanical and mercantile pursuits. In conversation the other day with a merchant, he remarked that he had no fancy for farming. I said to him, sir, if we stop farming, your business will soon come to a stand still, for you will not have anything to trade upon. He acknowledged that it would be so, as agriculture is the chief corner-stone of a nation's greatness,—the main foundation of human civilization.

We have made some progress in the last twenty years in the improvement of stock. The old scrub ox has given place to a nobler animal. The same is true of cows, sheep and swine. The skilful mechanic has given his mind to the subject, and has invented new and improved tools, by which much of the hard labor is lightened and the work more thoroughly done. But many, very many of the masses plod along in the steps of their fathers, gathering their scanty crops, and appear to have no wish to better their condition.

A remark is occasionally made like the following:—"I do not want 'Boston folks' to tell me how to manage my farm. I have managed it for forty or fifty years, and think myself more competent than they are." Many of this class of men are working a good soil, and are barely making the "two ends meet," as the saying is, and are contented, thinking they are doing well. There is much land in New England that is not fit for cultivation, and it should not be attempted. There is good land enough, and it should be cultivated to its utmost capacity. It should be made to produce on one acre what now is done on three, and the crop will be produced cheaper, thus leaving a larger profit.

The time is slowly approaching when the unskilful farmer will be crowded off the track. Men buy where they can buy the cheapest. The skilful agriculturist can afford to sell cheapest; consequently he will monopolize the market. Labor I know is high, but it must be carefully laid out, so that each day shall, if possible, pay for itself and leave a small profit to the employer. The time for haphazard farming has passed. What other pursuit, managed as farming has been, would not have resulted in a complete failure. Can the merchant afford to let a stream of water run through his sugar and flour, or can the dealer in volatile materials expose his goods to the air, allowing their value to escape, and at the close of the year expect the balance to be on the right side of the sheet? This experiment has been tried in farming until the balance sheet is now a very close thing. H.

Epping, N. H., 1869.

NEW HAMPSHIRE AGRICULTURAL COLLEGE.

From the *Mirror and Farmer's* review of the annual report of the Trustees of the New Hampshire Agricultural College, to which is appended a report to the Trustees of Prof. Dimond, we make the following extracts:—

Eleven young men were connected with the College during the course of the year. After giving some details of the results attained during the year, Prof. Dimond considers "the aim and policy of the institution." Under this head, he refers to the Congressional Act which gave it birth. He states that there is much misapprehension in the public mind in regard to the objects and designs of the colleges for which the National Government has set apart about nine and a half millions of the public lands. He shows, by a reference to the Act, that the colleges are not designed to teach the science of Agriculture alone. He says:—

"The latter clause of the fourth section is the only one which concerns us here. It declares that the object of these national colleges is to give the *industrial classes* an education. It insists that they *shall* have a *liberal education*. They *shall* also have a *practical* education. They may, if desirable, be taught the *ancient classics*. They *may* be taught in any branch of *science*. They *shall* be taught at least something of *military tactics*. They *shall* be taught those branches of science which relate to *agriculture*. They *shall* be taught those branches of science which relate to the *mechanic* arts."

Prof Dimond then refers to the origin of industrial colleges. He says that our oldest American colleges, until recently, have offered a system of training chiefly designed for those intending to devote themselves to Law, Theology or Medicine, while an important class of men has come upon the stage who need a mental training of a different character. "The Civil Engineer, the Miner, the Agriculturist and the Manufacturer, must each have his eye trained in the rigid school of practical science. To meet this want of a more practical education, such men as Smithson, Lawrence, Cooper, Chandler and Peabody, have devoted a portion of their fortunes."

He shows that Dartmouth College has the facilities to furnish the State College all that limited amount of liberal culture which the Congressional Act declares we must have, and that by co-operation with Dartmouth, the State College can secure and maintain such laboratories and other like conveniences as are essential. He also shows that a new building, four stories high, is needed for lecture-rooms, museums, recitation rooms, &c.

He says that a geological survey of the State would be a work of great value to the Industrial College, and suggests that a hydrographic survey would also be of great benefit, not only to the State, but also to the pupils of the College. Another want of the College is an Experimental Farm, to which the student, after he has become familiar with the principles which underlie intelligent and successful practice, may be taken, during the summer months, and taught the details of farming and the business connected therewith. Upon this farm, experiments should be constantly made, and new theories tested, for the express benefit of men engaged in agriculture in every section of the State. As the mechanic arts are placed upon an equal footing with agriculture, an Experimental Machine Shop is needed, which shall be devoted to the study and development of the wonder-working forces and agencies of the mechanic arts.

In accordance with the suggestions of Prof. Dimond, and in response to a resolution adopted by the Trustees of the Agricultural College, the Trustees of Dartmouth College propose to erect a building, at a cost not exceeding $40,000, on the condition that the further sum of $15,000 should be furnished by the Trustees of the College of Agriculture and the Mechanic Arts. The Trustees of Dartmouth College agree that, if an appropriation for this purpose is made by the Legislature, they will refund it to the State in case the connection between Dartmouth College and the College of Agriculture and the Mechanic Arts, shall hereafter be dissolved.

The Trustees of the College of Agriculture and the Mechanic Arts conclude their report by asking the Legislature for an appropriation of $15,000 for the purpose of aiding in the erection of the proposed new building.

WOOLEN FACTORIES.—There are now in Illinois eighty-seven wool-carding mills, and thirty-three manufactories of woolens, with a capital of $3,600,000, employing 3,450 operators, one-fourth of whom are women, and consuming annually the wool clipped from over 2,500,000 sheep.

Youths' Department.

From Our Young Folks.

LITTLE BROWN HANDS.

They drive home the cows from the pasture,
  Up through the long shady lane,
Where the quail whistles loud in the wheat-fields,
  That are yellow with ripening grain.
They find, in the thick waving grasses,
  Where the scarlet lipped strawberry grows;
They gather the earliest snowdrops
  And the first crimson buds of the rose.

They toss the new hay in the meadow;
  They gather the elder-bloom white;
They find where the dusky grapes purple
  In the soft-tinted October light.
They know where the apples hang ripest,
  And are sweeter than Italy's wines;
They know where the fruit hangs the thickest
  On the long, thorny blackberry vines.

They gather the delicate sea-weeds,
  And build tiny castles of sand;
They pick up the beautiful sea-shells,—
  Fairy barks that have drifted to land.
They wave from the tall, rocking tree-tops
  Where the oriole's hammock-nest swings,
And at night-time are folded in slumber
  By a song that a fond mother sings.

Those who toil bravely are strongest;
  The humble and poor become great;
And from these brown-handed children
  Shall grow mighty rulers of State.
The pen of the author and statesman,—
  The noble and wise of the land,—
The sword and chisel and palette,
  Shall be held in the little brown hand.

[Copied by permission from *Appleton's Juvenile Annual.*]

THE COON HUNT.

"Father," said Harry Elton, running eagerly into Mr. Elton's study, "can't we have a coon-hunt to-night? Bob says that a coon gets every night into the corn-field, and that a good many of the cornstalks are broken down. If we don't catch him," he says, "half the hills in the field will be destroyed."

"I have no objections," said Mr. Elton; "it will be moonlight to-night, and that will be favorable for your sport. So go to Bob and make all your arrangements."

Harry Elton did not wait for further assent from his father, but, hastily thanking him, ran at full speed, to find his brother Frank and the negroman Bob. and to acquaint them of his father's consent to their proposed expedition. Frank and Bob were both delighted at the intelligence, and all three began to make their arrangements and lay their plans for the capture of the coon.

At about nine o,clock in the evening Frank and Harry sallied forth, followed by Cæsar, the house-dog, and proceeding first to Bob's cabin, found him fast asleep on the bench before his cabin-door, with his tough old coon-dog Bull—who was scarred and torn by many a conflict with coons—stretched on the ground by his master's side. Bob and Bull were on their feet in a moment at the approach of Frank and Harry, and in another moment the party set off, Bob first providing himself with an axe.

The dogs now seemed to understand the object of the expedition, and began to manifest their delight at the sport in view, by barking, capering, and rolling over each other.

"Down, Cæsar!" cried Harry; "be quiet."

"You just be still, now," said Bob to his dog Bull; "didn't you ever go on coon-hunt before? I guess you have. I guess them ears of yours have felt a coon's teeth afore this; I reckon so, I do. That old Bull, Massa Harry, is the greatest coon-dog in these parts; he can't be beat treeing a coon, I tell you; and when he just gets hold of a coon, it aren't no use for the fellow to scratch and fight. Bull just uses him up in no time."

Bob was never tired of bragging about the courage and sagacity of his dog Bull, and in this way they amused themselves until they reached the cornfields, about a mile distant, in the vicinity of a low, swampy wood. They had scarcely reached this spot before the dogs gave evidence that they had struck the scent of a coon, and in another instant the whole party were in full chase. The coon rushed through the rail fence, the dogs at his heels, and in a few leaps had reached the cover of the wood; the dogs pursuing him hard, and Bob, and Harry, and Frank all shouting frantically at him.

There was no hope for the coon but a tree, and up he scrambled, barely escaping Bull's eager fangs, a tall and straight tulip-tree, that stood near the bank of a small, sluggish stream which coursed through the wood. The dogs, at the foot of the tree, were barking furiously and tearing at the bark, when Bob and the two boys came up to the spot.

He's treed, sure enough," cried Bob; "but he can't get off that way nohow;" and with these words the negro went to work vigorously with his axe at cutting down the tree. It was not many minutes before the tree began to totter, and in the next instant it went crashing to the ground; falling, however, directly across the little stream already alluded to. As it fell, the dogs and the boys rushed down the bank of the stream to the water, while Bob scrambled along the trunk. They now saw the coon on a small branch that reached into the stream, which he had run down with the hope of escaping by the water, which he takes to readily.

But as the dogs are on the bank, close to the branch, he hesitates. The dogs bark furiously at him, and Harry tries to urge them into the water in pursuit, while Bob climbs along the trunk of the tree, and attempts to shake the coon off the limb, and Frank throws several sticks at him. Still the coon hesitates to take to the water, and the dogs cannot reach him on his small branch. The boys shout, the dogs bark, the negro grumbles, and shakes the branch with all his strength, and threatens the coon with every possible vengeance if he does not abandon the small limb, and afford the dogs a chance for his capture.

The coon could not hold out long in this position, and as Bob had now cut off his retreat, he at last leaps into the water and makes a dash for the opposite bank. The dogs instantly plunge in, in pursuit, and in a moment Bull is upon him. The coon slips under the dog as he dashes eagerly at him, and giving his pursuer a deep and ugly gash on the nose, which brings the blood and a howl of pain, manages to reach the opposite bank, but now with both dogs close at his heels.

Meanwhile Bob had scrambled along the trunk of the tree across the stream, and Harry and Frank were following him as rapidly as the thick branches of the tree would permit. "Catch him, Bull," shouted Bob; "at him, Bull! at him!" "Go in, Cæsar; catch him, catch him!" shouted both the boys; and all three—all five we may say, if we count the dogs—were wild with excitement for fear the coon would escape.

But the dogs are already upon the coon, just as he attempts to gain another tree, and the battle begins. The coon shows good fighting qualities, making the dogs' hair fly, and biting and scratching them badly. But he soon has to succumb, and in a few moments the dogs stand over him victors, although their bloody noses show that the battle has not been too easily won.

"Golly!" exclaimed Bob, as he held up the coon by the tail, "that's a powerful big coon, I tell you; and he was just the finest fighter this here nigger ever saw. Golly, ain't he big, Massa Harry and Massa Frank? and didn't he give old Bull a mighty bloody scratch on the nose?" And the negro, as he proceeded to relate the adventures of the hunt, gave way, every few moments, to long and boisterous roars of laughter.

The party now proceeded homeward, quite satisfied with their evening's sport. The next morning the skin of the coon adorned Bob's cabin, stretched on sticks, Frank and Harry agreeing that he should possess the coon's skin, for the purpose, in the ensuing winter, of making a coon's skin cap, ornamented, as he promised it should be, with the coon's tail hanging down behind.

WATCHING ONE'S SELF.

When I was a boy, said an old man, we had a schoolmaster who had an odd way of catching idle boys. One day he called out to us:

"Boys, I must have closer attention to your books. The first one of you that sees another boy idle, I want you to inform me, and I will attend to his case."

"Ah," thought I to myself, "there is Joe Simmons that I don't like; I'll watch him, and if I see him look off his book, I'll tell."

It was not long before I saw Joe look off his book, and immediately I informed the master.

"Indeed," said he, "and how did you know he was idle?"

"I saw him," said I.

"You did; and were your eyes on your book when you saw him?"

I was caught and never watched for idle boys again.

If we are sufficiently watchful over our own conduct, we shall have no time to find fault with the conduct of our neighbors.

A Laughable Clock.—A German in New Albany, Indiana, has what he calls a "dumpling-clock" in his window. On its top is a fat and jolly looking Teuton, who holds a fork in his hand. By an ingenious contrivance, the fork, at the end of each minute, dips into a dish of dumplings, and carries one of them to the mouth of the Teuton, who swallows it with a choking gurgle, and a queer motion of his glass eyes.

We have seen even boys and men who are little more than dumpling-clocks,—good to count breakfast, dinner, and supper time.

THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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MONTHLY.

SIMON BROWN,
S. FLETCHER, } EDITORS.

SEPTEMBER.

The leaves that made our forest pathway shady,
  Begin to rustle down upon the breeze;
The year is fading like a stately lady
  Who lays aside her youthful vanities;
Yet, while the memory of her beauty lingers,
  She cannot wear the livery of the old,
So *Autumn* comes to paint with frosty fingers
  Some leaves with hues of crimson and of gold

George Arnold.

SEASONS and man were made for each other. His love of change finds gratification in the peculiarities of the changing months. He would grow weary and listless if *July* were extended to a hundred days instead of thirty. As the months come and go, they seem to stir up within us sentiments which are in accordance with their own nature. Though we may not as yet have felt any "untimely frost," and rich harvests are bending all around us, we *do* begin to feel that the year is on the wane. It is "declining into the vale" of months. It has reached the summit of the hill, and is not only looking, but descending into the valley below. The year "steps onward toward its temporary decay, if not so rejoicingly, even more majestically and gracefully than it does toward its revivification. If *September* is not so bright with promise, and so buoyant with hope as May, it is even more imbued with the spirit of serene repose, in which the only continuous enjoyment consists. Spring 'never *is*, but always *to be* blest;' but September is the month of consummations—the fulfiller of all promises—the fruition of all hopes—the era of completeness."

It is too much a habit of thought, with a great many excellent people, to look upon the waning year as a *dying* year, and to hold it up as a type of our own brief hold upon earth. In some particulars, this is undoubtedly true. The beautiful language which we quoted above speaks of the year as stepping onward toward its *temporary* decay. The lapse of each year also finds in us a stepping forward toward a temporary decay—not a final decay.

The thought, then, which we shall be glad to inculcate is this, that—

"There is no death! The dust we tread
  Shall change beneath the summer showers
To golden grain or mellow fruit,
  Or rainbow-tinted flowers;"

and that the spirit or soul which God gave us when he "created us in His own image," will *never die*.

Like the effect of the lapse of time upon vegetable life, so will it be upon our bodies.

here. We are stepping forward toward a temporary decay of what is mortal in our natures, and as we proceed the effect upon our minds should be something like that of the month of September to the candid thinker,—the fulfilment of promises, the fruition of hopes—the era of completeness. Let this view of life become one of habitual thought, instead of that of decay and death, and we become citizens of the new world at once, with new hopes, new powers, and stronger aspirations after a blessed immortality.

Such, kind reader, is our lay sermon respecting some of the things which influence us in the month of *September*. Let its lesson abide with us during its brief term, and lead us to cheerful views of life and life's duties.

As business men, we think it proper, as each month dawns upon us, to look forward and ascertain what its demands are, so that all its duties may be discharged "decently and in order." Can it be less a duty in us to give attention to our moral and spiritual needs, and make the pathway to them clear and pleasant? By no means. He who neglects these, neglects his highest interests in life.

SEPTEMBER, like the other months, calls for a succession of labors. Nearly all the crops are gradually ripening for the harvest. But they do not come all at once. They need the eye of the master to say at what precise day they shall be gathered in. A mistake in these particulars will sometimes make an essential difference in the value of the crop. For instance: — Carefully conducted experiments show that wheat harvested several days before it is fully ripe, will give more weight of grain and flour, and that the latter will be of better quality. So that a variation of a few days in the time of harvesting a crop of wheat, may make a money difference of $5, or $500, according to the amount of the crop. This principle bears upon the crops of the present month. A disregard of many of the items of harvesting which are to occur in September, might swell the amount of loss into a sum as large as the cost of the entire harvesting.

GRAIN.—In getting in any of the grain crops in Autumn, they should be sown sufficiently early to allow them to get firmly rooted before their growth is arrested by frost. If the roots get a firm hold of the soil, the plants are not only less likely to be thrown out of the ground by the frost, but they have gone down where they can find nutriment to give them an early and vigorous start in the Spring. The last days of August are better for sowing than the middle of September.

HARVESTING POTATOES.—Some say that potatoes should be dug just "as soon as their skins will not slip upon rubbing them." Our practice has been, however, to let them remain in the ground—if not on a wet soil—even into the first week of October. It seems as though no place could be better adapted to preserve them than the beds in which they grew. In such situation they are not crowded, are kept from the light, and in a condition sufficiently moist to prevent undue evaporation. We know they keep perfectly well in the ground through the winter, because we find them there in perfection when ploughing in the spring.

What are the advantages of early digging and storing those which are intended for winter use?

FEEDING MOWING LANDS.—A great change of opinion has taken place in regard to feeding the mowing lands in the autumn. Once it was very nearly a common practice with farmers to feed down every acre of their mowing fields, so that scarcely a semblance of green herbage was left. Of course, when plants are fed off in that way, no proper action can long continue between leaf and root. These are as important to each other as is the branch of the tree to its roots. If this close feeding were to occur all at once, and then be discontinued, the plants might recover themselves, and be clothed with leaves before arrested by frosts. But such is not the case. The cattle like best the short and tender grass, and pass over the field day after day, nipping every green leaf as it appears, cutting off all action between leaf and root, until the latter gives up the contest and dies out. It dies of actual starvation. It has thrown out leaves over and over again, to the atmosphere, to drink in its life-giving element and pass them down to the famishing roots; but just as they were accomplishing this beneficent work, some hungry mouth would come along and devour them. How can any crop grow under such treatment as this?

Where the feed is luxuriant it is undoubtedly best to feed a portion of it off, because if covered with deep snows for some weeks, it

will sometimes become so warm as to cause fermentation, and destroy the roots. Although danger from this may not be great, it can be no injury to feed off a portion of a redundant aftergrowth.

FROTH ON THE STEMS OF GRASSES.

The insect which produces this substance appears to be increasing in many parts of New England, and to be doing much damage. Mr. Philbrick Cram writes to the *Country Gentleman*, from Windsor Co., Vt, that in Norwich one farmer had been unable to raise any grass seed for six years in consequence of the work of this insect. Previous to its appearance he had raised grass seed for his own use and to sell. In other sections it has been observed only during the past four years. Mr. Cram furnishes the following description of the insect:—

> The little maggot in the froth is the infant bug; the froth is his house, in which he lives while he passes through his infantile stage; you will then find him at the roots of the grass, a matured ugly black bug, about three-eighths of an inch long and in countless numbers; they are so spry that it is difficult to capture one of them alive. In this stage they spend a short time in feeding on the young grass at the bottom, until they make the second change, which is to the chrysalis state. Here they spend the winter as best they can, dormant of course, until the next summer has brought forward the grass. Then from the old last year's chrysalis appears a little, pale, flesh-colored miller, with a body about a half-inch in length, and wings (when spread) about an inch across—very spry. The complete insects eat nothing; their only office is to deposit their eggs in the joint of the young grass from which the head proceeds, and when their complement of eggs is laid they have done their work, and that is the end of the frog hopper race for one year.

For the New England Farmer.

HEN FEVER OF 1844.

Shanghai—Light and Dark Brahma—Crevecœur—Houdan—Asiatic and French Fowls—Effects of Care and Situation.

In the spring of 1844 the hen fever raged in our vicinity to a fearful extent. The staid and healthy farmers, their wives, and even the most respectable maiden ladies in our neighborhood took the expidemic. There was at that time only one known remedy, which was to procure a dozen eggs from Burnham of his famous Ladder or Barrel fowls, and after waiting patiently three weeks for the operation of the first dose, the patient was generally relieved.

Your correspondent, however, was not so fortunate. Having visited a neighbor who had a fine brood of Shanghai chickens, he took the fever in its worst form, rushed home in a frantic condition, sent immediately for thirteen Shanghai eggs, procured and set them the next day. I think no hen ever received more care in sitting than the one on those golden eggs. Fresh water was placed before her each day, and all kinds of food, from buckwheat to roast beef, was on her daily bill of fare. She eventually paid for her care by presenting eleven fine healthy chickens. I assure you my fever did not subside, especially when I sold them at eight weeks old, for the enormous sum of $20. Elated by this success, I immediately erected coops and continued breeding on a larger scale up to the present time. But I have never been cured or relieved of the fever, and never expect to be, while I receive so much pleasure in the management of my poultry yard.

For the past sixteen years my favorite breed has been the light Brahmas, believing that no breed of fowl are their equals in hardiness, production of eggs, and poultry for the market; and after experimenting the past year with many new varieties, I am still of the opinion that for early market, winter laying, and hardiness, they have no superior.

I cannot fairly judge of the merits or demerits of the new French breeds, not having fairly tested them, as most flocks have been made up by importation, and have not been acclimated. The Crevecœur I find hardy chickens, maturing at an earlier age than any breed I have ever raised. They are good layers, but subject to disease at maturity, especially the cocks. I have an imported Crevecœur hen that commenced laying in January, laying her first litter of 96 eggs in 104 days. She has layed constantly since, and is still laying. This is, however, an exceptional case, as I have others that are fair, but not superior layers.

The Houdans, in my judgment, are fair layers, maturing early, are solid always ready for the pot, hardy when young, but like the Crevecœurs, are subject to disease at maturity. I do not consider either of these French breeds so hardy in our climate as the Asiatic fowls.

I have often stated that if any breed should supersede the Brahmas for our northern and western climate, it would be some other variety of the Asiatic fowl. I see no breed except the Dark Brahma that promise to be their superiors. This is a variety of the Asiatic breed. They are a solid, square-backed, broad-breasted fowl, very hardy, large, with yellow flesh, and promise equality, if not superiority over the light Brahma. It is, however, very unwise to judge entirely of the merits of any breed of domestic fowls from the experience of one or two parties, as in different situations, under different care, and with different stock, one's experience may be entirely contrary to that of others. J. S. Ives.

Salem, Mass., July 15, 1869.

Birds in Prussia.—By royal decree, the wren, the sparrow, woodpecker, wagtail, and twenty-five other birds are protected from the onslaught of boys and sportsmen.

SALT FOR STOCK.

SALT as a feed for stock is objected to by a writer in the *Western Rural*, principally on the ground that it is an antiseptic, and therefore retards digestion; it is also a mineral, and therefore poisonous.

Let us inquire into the validity of these objections. An antiseptic is something that counteracts putrefaction. Are digestion and putrefaction the same or even similar processes? Is it necessary that food should putrefy in order to its digestion? The gastric juice, by which digestion is effected, is a strong antiseptic. It arrests at once the process of putrefaction even after it has commenced. Hence an antiseptic does not necessarily retard digestion, and this objection fails.

But "salt is a mineral, and therefore poisonous." We think the writer must be a student of quack medicine venders, who recommend their medicines on the ground that they contain no minerals, and are therefore not injurious to animal life. Are not minerals always found in the animal fluids and tissues? Does not healthy gastric fluid always contain hydrochloric acid? Is not soda a constituent of the bile? Is not iron found in the blood? Is not a large amount of lime worked up in forming the bones?

The hydrochloric acid in the gastric juice, and the soda in the bile, are derived from the salt taken with the food. So, the lime and the iron are taken in with the food. The organs of digestion have the faculty of separating these mineral substances from the organized vegetable and animal substances which they convert into nutriment, of appropriating so much of them as is required to the various uses of the body, and of ejecting the remainder by the pores of the skin, by the kidneys and the intestines. Only about four parts in a thousand of soda are contained in the blood, whatever quantity is taken into the stomach. Only so much lime as is needed to repair the waste in the bones is retained. Nature finds minerals necessary in constructing the body and in carrying on the animal processes, and not only so, but she has a wonderful power of eliminating and throwing off such as are not wanted in the system.

The argument that salt is not needed because it is a mineral is therefore without foundation. Salt undoubtedly aids digestion, and contributes to the healthy performance of the animal functions, and a regular and bountiful supply of it is not only useful, but very gratifying to all our domestic animals, and more especially at that season of the year when their food is most juicy and succulent.

Since writing the foregoing we have read an article upon this subject in the *Rural New Yorker*, by J. Weldon, a stock raiser of Rockford, Ill., who gives several instances in his own experience of the beneficial effects of salt and of the injurious results of withholding it, from which we copy the following:—

> Early in the autumn of 1842, I resolved to go to Chicago for salt and other supplies, but repeated hindrances prevented—so that my cattle were without the needed salt till November, and though the feed had been abundant my stock was in no better plight than they usually were when I turned them to grass. Then commenced the long winter of continued snows, and when my cattle could get their living on the willows, and in the sloughs, all that remained of several of my best cows and some two year olds, were their hides. My estimate was that, had I fed but one more barrel of salt to my stock of cattle (which was quite considerable for those times,) during August, September, and October, 1842, my available assets in May, 1843, would have been increased hundreds of dollars.

HOW TO HAVE GOOD MEADOWS.

Mr. Plate of Bradford Co., Penn., in a letter to the American Institute Farmers' Club, gives his experience, as follows:—

> My land is adapted to all kinds of grain, and to timothy and red clover. My practice is, when I sow a piece to grass, not to plough it again in less than eight years, and I frequently let it lie a much longer time. I have a meadow now which has been mowed for sixteen successive years, and it was never better than now. In fact, my meadows, under the right treatment, grow better as they grow older.
>
> I do it *by returning to a meadow all the manure the hay made that was taken from it*, and sowing a bushel of gypsum per acre, each year. In that way the yield of grass is heavier and finer and richer as the sod thickens. I use manure only for top-dressing the meadows; in that way, I get double price for it. It produces as much worth of grass as it would in grain, and also reproduces itself again in the turf. My turf when ready for ploughing under is a solid body of grass roots

twelve inches deep or more, and so thick on the top that no soil can be seen. I consider one such turf, when turned under, equal to 160 tons of first class barnyard manure per acre.

The above statement suggests to our mind some reflections. We have no doubt that with a good soil and such treatment the results stated by Mr. Plate may be reached. We have heard of a case in which a man kept fifteen horses, and put all the manure made by them on three acres and a half of good land, year after year, until he cut seven tons per acre, annually, cutting it three times a year.

But if we, small farmers, with ordinary soil, return to the grass land all the manure made from the hay which it yields, where are we to find the means of making crops of wheat, corn and potatoes? If a man raises nothing but grass, and depends wholly for his income upon stock, this will do. But then he must purchase his grain and other farm products from those who apply manure to the production of such crops.

Now we take it that one of the chief advantages of grass crops is that they furnish the means of cultivating other fields in the various crops of the farm by the manure they yield. If we must return all the manure made from the meadow to the meadow itself, our farming in New England would soon come to a stand still.

The bushel of plaster per acre is very well, and if we can make any compost for top dressing to the grass land so much the better, but the manure made from the hay must go to the corn and wheat and oats and potatoes and garden. We do not doubt that such a sod as that above described, when turned in, would produce a splendid crop of corn and wheat in succession. Then it must be reseeded to grass, and the manure made from it be returned to the meadow. Now what are we to do for corn and wheat during the following sixteen years? Shall we be able to lay up grain enough during the two years of plenty, as Joseph did in Egypt, to supply us during the long period when we raise no grain? We have strong doubts about the economy of such farming, to say nothing about its possibility under ordinary circumstances.

Grass derives a large portion of its substance from the atmosphere. The aftermath decays on the surface and becomes a manure, and the roots accumulate in the soil. Hence grass exhausts the soil but little compared with other crops, and we are able to appropriate the manure made from the hay to other crops. We believe it would be better economy to take off three or four or five crops of hay, and then plough, manure and reseed, thus manuring the meadow once in three, four or five years, and giving it one, or still better, two bushels of plaster each year, and use the manure from the hay, in the intervening years, for other crops.

Mr. P. considers one such turf when turned under, equal to 160 tons of first class manure, and we have no doubt he is right, large as the quantity may seem. One square rod contains 272¼ feet. Multiply this by 160, the number of rods in an acre, and we have 43,560 feet in an acre. This would be equal to 340 cords, and we think that one cord of solid turf would weigh two tons. This would make 680 tons. This will give four tons and a quarter of turf to one ton of barn manure, and *such* turf—turf that has had a top-dressing of barn manure every year for sixteen years. Well rolled down, we think it would fully equal his estimate. This would be heavy manuring and ought to give several large crops in succession.

Now where did this accumulation of vegetable matter come from? The aftermath may be safely set down at one ton, and the hay at two tons per year. Dana says that a cow eating twenty-four pounds of hay and a peck of potatoes daily will make 31,025 lbs. of dung in a year. But 24 lbs. of hay a day would be 8760 lbs. or four tons and a third. Two tons will give less than half of this, say 15,000 lbs. But of this eighty-three per cent. is water, so that there will be less than a ton and a quarter of solid matter from two tons of hay, to be returned to the soil. This gives but about two and a quarter tons of solid matter returned to the soil annually. Where did the other seven and three-quarters come from? Undoubtedly from the atmosphere. "Grass groweth everywhere." It is the universal fertilizer provided by Nature. It derives from the atmosphere the means of fertilizing the earth and enabling it to produce all the crops required by man; and it is because of this wonderful power that it is so profitably cultivated, as by its means we are enabled to cultivate the almost unlimited variety of vegetables found in our gardens and fields. If all the manure made from the hay is required to cultivate the hay itself, we must become shepherds and herdsmen, and live like the Bedouins on the produce of our flocks and herds.

For the New England Farmer.

CIDER AND VINEGAR.

Shall the manufacture of cider and vinegar be made a specialty?

Farmers are so slow in adopting the means for saving labor which the inventive genius of the day is urging upon them, especially in applying water and steam power to their work, that it is pleasant to note any instance of progress.

During the past season an establishment for making cider and vinegar, with steam for a motive power, has been erected and put into operation in Salem, N. H. It consists of a long, large building, situated upon the gentle slope of a hill, with the length or side facing the south. The building is heavy timbered, as indeed it must be, to support the long rows of hogsheads extending from end to end, one above the other, even as high as the plates. The whole length of the south part of the building is partitioned off, and made warmer than the rest, and is supplied with steam pipes. In this room, in which a high temperature is constantly maintained, the process of making vinegar will be hastened. Indeed so essential is heat for this work, that it is intended that the temperature of no part of the building shall fall below the freezing point.

A portion of the first or ground floor is for receiving and storing apples. The mill, which is a common grater, is placed at the down hill end of the building, with the hopper nearly on a level with the floor. The pomace runs directly into the presses in the basement below; the steam engine is near by and does the pressing as well as the grating of the apples. Wagons can readily be backed into the basement, directly up to the presses, so that both loading and unloading is easily accomplished. Cider is made for customers at a certain rate per bushel, or the apples are purchased of them. If the quantity brought is sufficient for a press, it is made by itself; if only a few bushels are brought they are put with other lots. The farmer has only to leave his apples at one door, and in a short time his cider will be ready for him at the lower door, or he can at once exchange small lots for cider and depart without delay.

The works were not finished at the time of my visit late last fall, and I understand an enlargement is contemplated during another season. The employment of steam presupposes that the business must be on a somewhat extended scale. Though, to the unintiated, a work of this kind may seem perfectly plain and easy, yet it really requires time and considerable capital, with a large share of patience and experience, to get everything in complete working order. The proprietor is a son of Mr. Perham, the well-known vinegar-maker of Chelmsford, Mass., and he has manifested an enterprise which shows that he has the utmost confidence in his success. From adjoining towns he had bought large quantities of fruit, and several thousands of bushels had been worked up last season,—the first of his operation here. He had also commenced making and putting up pickles. These he purchases in the neighborhood, and the younger members of the farmers' families can gather many a dollar from the cultivation of this crop. The works are only a few rods from the depot, and the city markets can easily be reached. Whatever of profit this enterprise may return to the proprietor, it certainly confers a benefit upon the farmers of that locality, for it at once creates a ready home market for the refuse apples, and introduces the cultivation of a new crop.

This, I believe, is the first attempt to introduce the steam engine in making cider in this vicinity, though there are several mills where water power is used. They are conducted on the same plan as the grist mills,—the proprietors do all the work and charge a certain rate or toll on a bushel. The advantages of these mills are apparent in fruitful seasons, and farmers will go a long way past the small, old-fashioned mills worked by man and horse-power, to have their work done in a workman-like and prompt manner.

Mr. P.'s establishment differs from others, inasmuch as it furnishes a ready home market for that which would otherwise require considerable time and labor to convert it into cash. Similar establishments are needed in all apple-growing districts. A large portion of the unmerchantable apples are now lost. The process of making cider by the old mills is laborious and tediously slow. Where the quantity of apples is small, the labor of gathering them, working up in these mills, and then disposing of the product often exceeds the return. In fruitful years, when the quantity is large, it is often kept so long in waiting for "a turn" at the mill, that it is injured or lost. Were these mills of sufficient capacity, not all farmers are expert cider-makers, and only a few have the conveniences for making vinegar at a profit. Now if there was a home market near by for the apples, where five, fifty, or one hundred bushels could be sold at once, there would be an inducement to gather up and save much that is now wasted. Here is an opportunity for the manufacturer to step in and help both producer and consumer,—a proper sphere for the middle man,—for farmers have the apples and want to sell them, and the cider and vinegar is wanted in the markets. When cider vinegar is made in the country, and not in the city, the lovers of that article can have the greater assurance that what they buy under that name is truly the product of the apple tree. And when all the produce of the orchard can be turned to a profit, the culture of the apple will be more encouraging.

Lawrence, Mass., 1869. N. S. T.

For the New England Farmer.

THE GARDEN IN SEPTEMBER.

The revolving seasons again bring us days and nights of equal length, and a month that epitomizes the year, as summer and winter are both pretty well represented by the varying temperature of its thirty days. The ancients in tracing out and naming the constellations of the heavens gave the name of "*Libra*, or the scales," to that cluster of stars seen this month on the meridian, in the track of the earth; thus not unfitly representing the equal length of the day and night.

The dry and sweltering heat of the first few days of the month usually soon gives way to storms, winds, cold and frosts which terminate the growth of most varieties of vegetables in the garden. Our duty now is, to prolong the season as far as possible; to gather in the ripening crops and save them for future use; to make provision for coming seasons by planting seeds to grow plants to be wintered over; to make preparations for cold frames and beds; to gather and save seeds; and to do up all needed, seasonable work.

The past season has forcibly impressed on gardeners the importance of thorough drainage. Well drained and deeply worked ground suffers less from great drought or too much wet than other land. It absorbs heat more readily and becomes warmer to a much greater depth, and is also in working order much earlier in spring, and continues the growing season later, in addition to its superior productiveness over that undrained and shallow worked.

BEANS.—Pick and preserve the string beans for winter use, as fast as they come to suitable size. All should be saved before frosts, as light frosts often spoil them. Pick off, shell and dry all pole beans, ripe or unripe, that have made a growth, especially the Lima, that prince of all beans. Shelled and dried, they are enjoyed and are almost as good, cooked in winter, when green vegetables are not to be had, as in their season in the fall. The Lima continues growing late, and ordinarily a large proportion of them are caught by frost before ripening. These, if properly secured are a valuable part of the crop, and match well the dried sweet corn for succotash.

CABBAGES AND CAULIFLOWERS.—Continue to hoe and cultivate frequently. The latter part of the month sow seed for plants to winter in frames, &c.

CELERY.—Earth up as fast as a few inches of growth is made. Be careful that none of the leaf stalks are broken or bruised, or any dirt is allowed to scatter into the heart. Earth up only when the plants are dry.

CORN.—Always make it a point to save the earliest and best ears for seed, and observe if any variation be apparent. It is by propagating from, and encouraging variations, that better varieties are established. Dry sweet corn for winter use, or if you are successful—which few are in a small way—can it. Cut up and feed the stalks as soon as divested of the ears.

CUCUMBERS.—Get out and save the seed from those reserved for maturing seed. A very good sweet pickle is made from the ripe ones.

MANURE.—The garden and grounds will now furnish a large amount of refuse matter, which should be added to the compost heap. Few are aware of the extent of their resources for making manure.

ONIONS. —Any remaining not harvested should be pulled when the tops fall over, cured a few days in the sun, then topped and stored in a dry cool room. Seed may be sown for plants to winter over.

SWEET POTATOES.—Lift the vines to prevent rooting. Some of the largest may be removed, by feeling for them with the finger, from the hill for the table. Dig as soon as, or before a frost cuts the vines. A dry day is best for digging.

SQUASH —Clear off the vines of the summer sorts which have done bearing. Winter squashes should be gathered and protected previous to any freezing frosts, as a slight touch injures their keeping qualities.

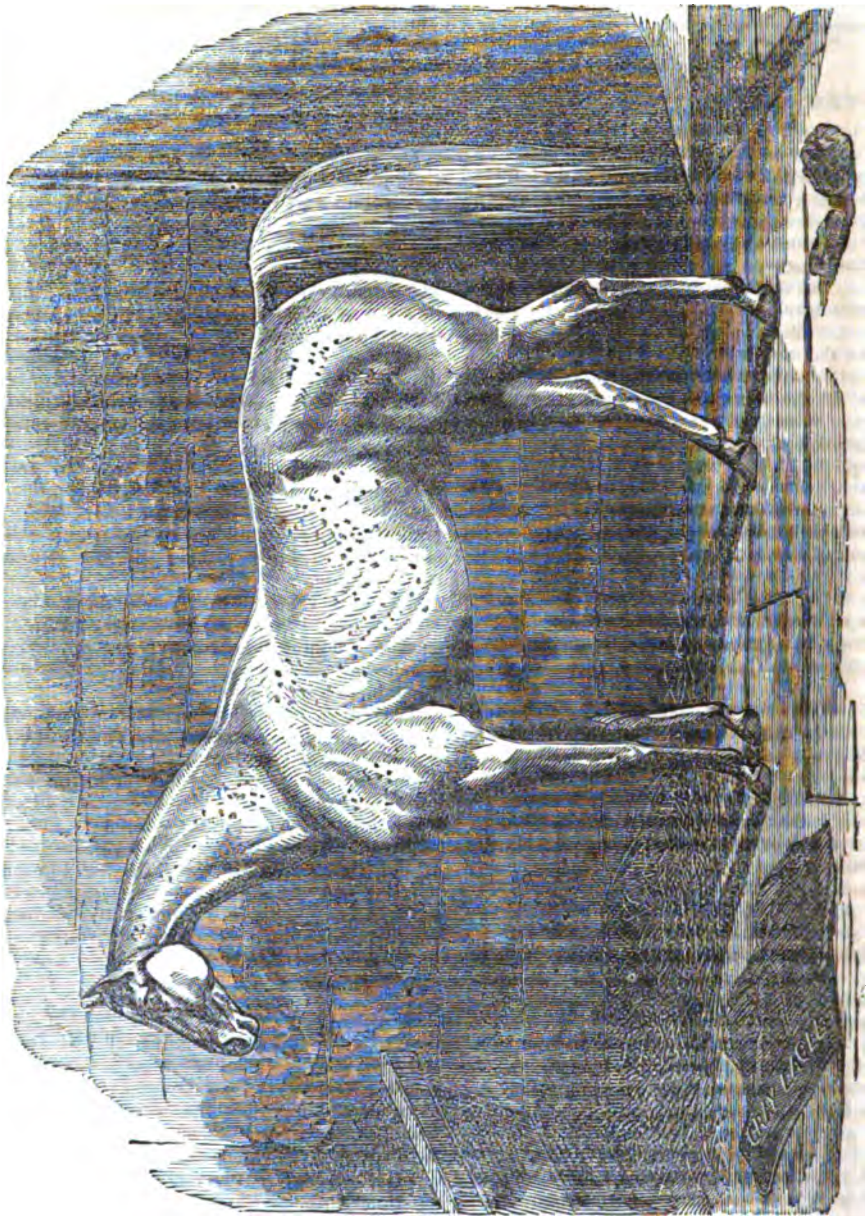
TOMATOES.—Pickle, can, make ketchup, gather and enjoy; for the first frost will cut them off. Their season may be prolonged by pulling up the vines, at the appearance of freezing, and hanging them under cover, or by covering the vines in the garden.

WEEDS.—Do not allow any to go to seed. If they are allowed to flower they will often perfect seed from the accumulated juices of the stem, &c., even if cut down and thrown on the manure pile. W H. WHITE.

South Windsor, Conn., 1869.

ESPARTO GRASS.—Ninety-five thousand tons of this grass were imported from Spain into England, last year, to be converted into paper. It costs in England from $20 to $30 per ton. The amount of paper produced is from 50 to 55 per cent. of the weight of the grass. Various qualities of paper are made from it without any admixture of rags or other substances. 200 lbs. caustic soda, and 250 lbs. of chloride of lime are used in whitening a ton of grass and reducing it to pulp. The same processes are used as in the making paper from rags. It is proposed to attempt the culture of this grass in the United States.

—The *Prairie Farmer* states that of the 412 students at the Cornell University, fifty-seven are studying "agriculture and the mechanic arts."



GRAY EAGLE.

A KENTUCKY THOROUGHBRED, OWNED BY W. W. CHENERY, BELMONT, MASS.

SORREL.

UPON many fields this pest to the farmer seems to be in greater abundance this year than ever before. What *was* it made for? Who can eat it, sleep on it, or use it in any possible way? "Witch grass" is bad enough, but the sorrel keeps an even pace with it in all its habits. Nothing will "thoroughly" kill it. It scorns fire and flood, unless they are unusually persistent. It roots deeply, and perambulates the soil as completely as does a country peddler a New England village.

We think we have seen one hundred acres of it, at least, in some recent travels about the country. On farms which are called "well managed" it stands in acres together, and has so completely taken possession of the soil as to prevent any other plants from coming to sight. Large fields presented an unbroken appearance of brownish-red, the color of the blossom of this pernicious weed. What *was* it made for? Who will ascertain some practical use for it, and help us to turn it to account? It certainly was not made in vain. Now that men are devising means of turning the trees and grasses and flags into sheets of beautiful note paper, why will not some one find means of converting this incorrigible pest into something that will be pleasant and useful!

We saw a single field where acres were covered with sorrel, and forming seed sufficient, we should think, to sow a township of land. This is one of several varieties of sorrel, and called sheep, or field sorrel. Some writer aptly calls it "Nature's grave-clothes," a title which it richly deserves, for if it continues to increase as it has done, there will be a fair chance of its overshadowing all other minor plants, and bury them beneath its remorseless embrace.

It is said that the best way to subdue it is by means of liberal dressings of lime. This has been disputed by some, but the experiment is worth making, as the lime will be useful to the soil, if it does not destroy the sorrel.

One cause of the abundance of sorrel on our farms may fairly be imputed to its seeds which are introduced in the grass seeds that are sown. And not only sorrel seeds, but others, which spring up and infest the land and plague the farmer.

A remedy for this evil may be found in the use of *seed separators*, in the form of fan mills. These are carried to such perfection that a dozen different kinds of seeds may be mixed together, thrown into the hopper and separated, each kind by itself, in the course of a few minutes. The sieves of the separator are so arranged that they separate and carry to different boxes, all seeds that are of different sizes, and at the same time all chaff and dirt is blown out from among them.

Such a machine has been devised and manufactured by Mr. Sanford Adams, which will separate *twelve* different kinds of beans, seeds and grain at once. One of these, or another as good, ought to be introduced into every farming neighborhood in New England, or at least, one in every town. A single machine would be sufficient for twenty-five farmers, and about two dollars each would pay for one. It should be kept at one place, and all seeds brought to it be cleared by the same person,—unless when used for winnowing large crops of a single grain. Then, of course, it would be taken to the place where the grain was threshed.

Who will start this in each town, and begin the process of making fairer fields and increasing the profits of crops?

For the New England Farmer.

THE HIGH PRICE OF BUTTER.

The great advance in the price of this important article of food has probably ocasioned more feeling and talk than the rise of any other product of the farm of the same value. All classes of people appear alike interested in this subject, and are ever ready to discuss it. What keeps up the price of butter? Why is it so scarce? These and similar expressions are continually heard. They show that the present high prices are generally regarded as unnecessary, and more like an extortion than the direct results of simple and legitimate causes, and that many are much irritated by being obliged to pay them. During the war, consumers consoled themselves by believing that the causes of the advance were temporary, and hoped that upon the cessation of strife, prices would at once tumble down to old rates, if not fall below them. But the yeomen soldiery have been back to their farms four years, and the prices of other products are gradually receding to former rates, while butter sells readily at an advance of 100 to 150 per cent.

What are the causes of the high rates? Are they found in increased exportation, unwonted speculations or severe drouths? These severally and combined have helped to raise the prices; but they have only a temporary influence upon the market, and do not account for the continuation of high prices.

The real cause lies beyond, and is of a more permanent character. It is found in the changed relation of production to consumption. In looking for this change, it should be remembered that while we are multiplying farms through the forests and over the prairies of the West and South, at unprecedented rapidity, good dairies do not multiply at the same rate. The manufacture and sale of butter requires an amount of neatness, care and labor, to which the conveniences and habits of the pioneer, grain producer and stock raiser in our new country are illy suited. It is no rare occurrence for farmers in Texas and throughout the South, who count their cattle by fifties and hundreds, to buy northern butter. The best dairies are confined to the older States. In them, fifteen and twenty years ago, butter commanded prices which returned small profits to the producer; it paid smaller profit than other products which required less labor and care. Farmers in Vermont could get as much for one pound of wool as for four and five pounds of butter. Dairymen saw that the butter market was over-supplied, and began to turn their attention to other things. To help on this change, the young men and women began to leave the farms for the cities, the villages and the West, in such numbers that farmers' wives could not do the work of large dairies without depending upon hired help; and the common run of foreign help, which only could be obtained, made very indifferent dairymaids. Deficient in help both within and without the house, there was a two-fold reason for not increasing the dairy.

But the figures show an actual decrease in some States. By the census of 1860, New Hampshire produced 20,292 pounds less than she did in 1850. Massachusetts made in 1845 nearly four millions pounds of butter more than she did in 1865. The next census will exhibit a marked falling off in many other localities, for during the present decade, means for disposing of the milk at the farm have largely increased. The rapid growth of the villages and cities calls for a large amount of milk, and which is annually increasing. Cars and whole trains are now loaded with milk in towns and counties where butter was formerly made.

The quantity of milk used in the condensing establishments is no small item. But the greatest check to increasing the quantity of butter will be found in the cheese factories, which are so successfully going into operation in the best dairy sections of the country. Where the multiplication of cheese factories will end, it is impossible to foretell; but since cheese can be made with less labor than butter, it is pretty certain the cheese factory will take precedence to the butter factory, even should butter be made upon the factory system.

While these means are operating to prevent milk to be made into butter, the number of cows is increasing slowly,—by no means at a rate to meet the wants of a rapidly increasing population. Farmers still prefer to keep sheep, raise colts or cattle, fatten stock, sell hay and grain,—do anything rather than incumber themselves with the labor and care of a large dairy. In 1860 New Hampshire showed a gain of only 603 cows for ten years. In 1865 the leading dairy county of Massachusetts,—Worcester,—returns a decrease of 3890 cows and heifers, and the whole State, although abounding in local markets, shows a loss of 9624 for the same period.

Thus the production of butter has received a decided check, while the consumption is increasing at a tremendous rate. There is the natural increase of our native population, swelled by daily accessions from foreign lands. These emigrants, it is true, have not been accustomed to rich living. To the majority, perhaps, butter has ever been a luxury; but they quickly come to regard it as a prime necessity. The freedman, too, must now be reckoned with the consumers; for he is fond of good things. Having the right of cutting his own bread, he will desire to see a little butter upon it. Then the fact that Americans are yearly becoming more luxurious in their tastes and given to high living and consequently greater consumers of this article, must not be overlooked. The consumption is increasing faster than at any other period, and it need not occasion surprise if the market is always active, whatever prices may prevail.

With this view of the subject, it is evident that good butter will command high prices for some time to come. It may be made upon the factory system, or farmers' children may be persuaded to remain at home, fully convinced that work about the farm and in the dairy room is just as healthy, improving and respectable as weaving, spinning, binding hats, stitching shoes, and the like. The fathers' and mothers' hands thus strengthened, large dairies may be more common. Whatever course the high prices stimulate farmers to pursue, it will require a vigorous, general, and continued effort to make the production keep pace with the consumption.

In the mean time, what shall consumers do? Shall they pay the high price, and grumble, or practice self-denial and philosophise? They can inquire how far butter promotes health and strength,—whether it does not chiefly make fat and support animal heat; whether in hot weather, when rich food is freely eaten, an unrestrained use of it, to say the least, is superfluous; whether it would not be wise to eat more cheese and less butter, since the former contains more of the elements of milk. If these questions are investigated and the answers they suggest acted upon, high prices may prove a benefit to consumers as well as to producers. N. S. T.

Lawrence, Mass., June 24, 1869.

For the New England Farmer.

BRAINS IN FARMING.---No. 2.

I propose in this article to present some facts which have fallen under my own observation, indicating a lack of the proper use of *brains* among farmers.

Here is a farmer who has already twice as much land cleared as he can cultivate properly. He has a nice wood lot, which is "a thing of beauty" to the passers by, a grateful shelter to the birds in the summer season, and a protection from the keen northern blasts that sweep over our Vermont hills in winter. But wood is four or five dollars a cord. There is money in that wood lot. It is in vain that we cry, "Woodman, spare that tree!" Down it must come, with all its brothers, and go to feed the iron horse. This wholesale destruction of our noble Vermont forest trees is enough to make any sensible man indignant. Unless this destructive, brainless process is arrested, western Vermont will be a desert in less than fifty years. Already we are beginning to experience the evils of this practice.

Said a farmer from the central part of Vermont to me, not long since: "I don't think much of your Lake Shore farmers." I asked him why? His reply was, "because they stack so much of their hay. They waste enough to build all the barn room they need." This is an unquestionable fact. A few years since, in riding seven miles from my residence, I counted seventy stacks of hay in view from the road, as I passed along, averaging five tons, I presume, to the stack. If, as some assert, the waste in stacking be one-third,—but we will put it at one-fourth,—it is not a difficult matter to calculate what the loss must be where the practice is kept up from year to year, as it has been, probably, to a greater or less extent, ever since the first settlement of this section. Does not this fact indicate a lack of *brains* somewhere?

Another fact. All around me I see farmers selling hay to be pressed and sent to the city markets. This is done more or less year after year. Have they not *brains* enough to see that this is a ruinous practice? That they are impoverishing their farms at a fearful rate? That they are burning their candle at both ends?

Again, as I pass along in the summer season, I notice field after field of corn or potatoes so overrun with weeds that not half a crop can be realized. If there be any truth in the old adage, that "one year's seeding makes seven year's weeding," what a task have such farmers before them! It shows a sad lack of brains for a farmer to plow and manure, and put in his seed, and then allow the weeds to rob him of his crop. Cultivate only what you can do *thoroughly and well*, is the true common-sense method. Yet how few farmers practice upon it? I do not know how it is in other States, but in Vermont it is a rare thing that we find a perfectly *clean* crop of any kind. This ought not so to be, and would not be, if farmers would only put a sufficient amount of *brains* into their business. I am well aware that this weed question is a difficult one to deal with. Weeds are hard to kill. Some kinds, I confess, I have found hitherto more than a match for me. Therefore I am disposed to be quite charitable towards my brother farmers when I see the weeds getting the mastery of their crops. Some insist that the only way to get rid of weeds is to keep your lands so poor that they won't grow. But I rather think that would not be a very profitable method, and I would suggest a better one. Make your land as rich as possible; and then when the weeds show themselves, apply the following compound, viz: Brains, all you have to spare; muscle, all you can muster. This method is not *patented*, and all who read this article are at liberty to apply it to their fields persistently until these terrible pests of the farm are exterminated.

I don't know, Messrs. Editors, where I should find a stopping place, if I should go on presenting facts which have a bearing on my subject. I see them all around me,—even on my own farm. Some may perhaps say, "Physician, heal thyself." Well, I wish I could. Be it understood I do not profess to be overstocked with *brains*; but I have enough to see where I and my brother farmers often miss it.

There is one fact, however, having a bearing on my subject, which occupies a prominent place in my mind just now and has done for some years; and that is, the indifference, if not opposition, with which the great majority of our Vermont farmers look upon our Agricultural College. An effort on the part of some has been made to get up a Farmers' Convention or Institute, similar to those held in some of the other New England States, the past winter; but the effort failed—public opinion among our farmers not being ripe for such a movement. I am aware that this does not speak well for the intelligence and enterprise of our Vermont farmers. But so it is. For one, being a Vermonter, "to the manor born," I confess to not a little mortification in view of such a state of things. When a farmer is not disposed to use what brains he professes to have, and does not seem to care whether his sons learn to use theirs intelligently in the operations of the farm, some might be led to doubt whether he had any brains at all.

I wish some of your able correspondents from Vermont would take up this matter and give it a thorough ventilation.

Uncle John.

Charlotte, Vt., 1869.

For the New England Farmer.

IN SEARCH OF A FARM.

Well, farmer Roods, I have been for years following this slavish life of a mechanic,—going and coming at the sound of a bell, and having saved a few dollars, I want to try a farm and take comfort in my old age.

That is very singular, Mr. Berry. The fact is, when farmers get to your age they want to sell their farms and take comfort in villages; but you are just ready to buy.

The truth is, friend Roods, I think there is no investment as safe as real estate. No fire can burn, and no man can steal such property.

The farmers don't believe it, for they lend their money to merchants and to banks or corporations, so that others can manage it for them; and the sons, seeing that their fathers have no faith in their business, invest their talents where their sires invest their money.

Well, Mr. Roods, do you know of a farm for sale?

Certainly, Mr. Berry. Nearly every farm in my neighborhood can be bought; and those who most desire to sell will sell cheapest.

What are some of the prices asked?

There is the Smith place, at $25 per acre; but the soil is somewhat run out, the walls and fences down, and buildings poor. Then there is widow Brown's farm, at $100 per acre; in good condition and very productive.

It seems to me, Mr. Roods, that I had best take the cheapest place.

If that is so, you will surely take the Brown farm.

Why, I understood you to say that was $100 per acre, while the other was only $25.

Very true; but I assure you that in farming there is nothing to be valued higher than a productive soil. Where can you get fertilizers to enrich the poor land? Most commercial manures are from fifty to eighty dollars per ton, and stable manures cannot be obtained at pleasure: and while you are experimenting with a few acres, your grass land and pasture is almost unproductive. On the Brown farm, however blunderingly you may go to work on your tillage land, your grass will yield bountifully, and the tillage is already in so good heart that a slight application of guano or superphosphate would give a start to crops that the soil would sustain in a continuous growth. so that every acre cultivated will pay for itself the first year, and the other land will give a good interest on the money invested.

I am not convinced, Mr. Roods. There is a great difference in the price of these farms, and Mr. Tucker bought a farm near Peter's Hill for $20 per acre. He just repaired the walls, painted the house, hung a few gates, white-washed the barn, and sold the farm so as to double his money.

That may be, Mr. Berry; but there is a great difference between improving a farm to sell and improving one for a home to get a living from. That farm of which you speak would not produce double the crops at the double price. My advice to a farmer would be, get your soil fertile as quick as possible, and the good crops will pay for good buildings and good fences. We farmers have an idea that the crops are what we work for, what we eat, and what we sell; and on these New England farms, if the soil becomes exhausted, a little guano or bone dust will not make a rich soil, no more than a pint of milk will make a pail of water into butter.

Well, Mr. Roods, I will look at the farms you mention; and the ideas you have advanced will be considered.

J.

Irasburg, Vt., 1869.

THE HAYING SEASON.

The season for cutting and curing the grass crop having come round again, we have a few remarks to make and some advice to give, which may be of service to farmer friends. In the first place we advise to begin the work of cutting grass *early*. This we especially recommend, if the hay is to be fed to milch cows during the winter. But few farmers are correctly informed in regard to the great value of early cut hay as milk-producing food. We made an experiment the past season which proved its high value conclusively. One acre of grass, a mixture of red-top and clover, was cut the 19th day of June, cured in two days, taken to the barn, and stored upon a scaffold by itself. On the first of March we put our herd of ten milch cows upon this hay, and almost immediately the increase in the flow of milk amounted to ten quarts per day. The hay fed to them up to the first of March was of the same variety, grown upon the same kind of soil, but it was cut in July, from the middle to the last of the month. No more of the early-cut hay was consumed; it spent as well, lasted as long as the later cut. It was fresh, and full of the rich, succulent juices, dry, but perfectly soluble. The money value of the product from this hay, fed to ten cows, was greater by nearly one dollar each day, than that from the later cut If hay is cut early, a good second crop is almost certain to be secured, and this adds greatly in keeping up a good flow of milk during the winter and early spring. The advantages of cutting hay early for milch cows must not be overlooked. In the second place hay must not be dried too much. We state here what we have often before stated, that, if grass is *entirely* freed from *external moisture*, as that in the form of *dew* and *rain*, *it will cure better in the mow than any where else*, provided enough exposure to wind and sun is had to cause one-half of the water circulating in the vessels of the plant to be evaporated. This is accomplished in six or eight hours of favorable weather. Hay is often spoiled by storing it when it holds considerable moisture arising from dew or rain, but very *seldom* or never when it holds no other than that which is natural to the circulating juices. These are important facts to remember. If grass is cut early in the morning, and thoroughly worked so as to drive off all the dew, it may be safely stored the same day, if it be a favorable one. A pound of over-dried hay is worth only half as much as that which is properly cured. Do not saturate your mows with *salt*. Salt does not *preserve* hay. Its action is unfavorable to curing hay in the mow, as it is a hygrometric substance, or one that attracts moisture. It holds, besides, considerable water of crystalization, and this affords moisture, and helps defeat the end had in view. Wet or damp hay will keep no better by throwing over it salt; and, when this substance is used largely, it is upon the whole injurious to animals who are compelled to eat the hay. Who among men could live upon "salt junk" continually? We must use reason and sound judgment in all our proceedings.—*Boston Jour. of Chemistry.*

PACKING BUTTER.

A few years since a dairyman of our acquaintance who had been particularly unfortunate in his sales, sent for a noted butter maker to learn the secret of making a high priced article. The man came and looked over the premises, and the only advice given was, "you need a clean, sweet, well-ventilated cellar for storing butter, and it must be used for nothing else. Then get oak firkins, heavy hooped, air tight and made just as handsome as the best cooper can turn them out. You need not change in your process of manufacture. This is all you have to do, and I will warrant you success." These suggestions were at once adopted and quick sales, large prices and heavy profits were the result. That dairy has now an enviable reputation and the butter is eagerly sought after.

A dirty looking package will often lose a good sale. It should have a fresh, clean, sweet appearance when it reaches the consumer that will please the eye of the most fastidious.

There are only a few kinds of wood that are fit to pack butter in. Wood of the ash is extensively used in some sections. It contains an acid very objectionable to butter, and should be rejected. Spruce, pine and gummy woods are often used. They impart a disagreeable flavor to the butter. White oak makes an excellent package, but the wood should be thoroughly seasoned before using. Many dairymen invariably select poor packages because they are *cheap*. To save a few cents on the package, they are willing to run the risk of losing a considerable sum on the butter which is to fill it. If sold immediately however the loss may fall on somebody else.

The season has now arrived when great care and attention is required of the butter maker to secure a product that will go into the market sweet and good. In preparing firkins and tubs for use, boiling water should be poured into them to soak for twenty-four hours. Then fill with strong brine for two or three days, turn out and rinse with pure cold water, and rub the sides with pure fine salt. Tubs after being filled should be headed and brine poured in at a hole in the top so as to fill all intervening spaces. Firkins when filled may be covered with a thin piece of muslin, upon which is spread a layer of fine salt and then closed with the wooden cover. Store in a clean, sweet, well ventilated *butter cellar* until ready for market.—*X. A. Willard, in West. Rural.*

PRAIRIE FARMING.

In reply to some questions propounded by a "Factory Boy" in relation to growing wheat on prairie sod, and to prairie farming generally, a correspondent of the *Journal of Agriculture* writes as follows:—

Sod land undoubtedly produces the best wheat grown on prairies. It should be broken with a sixteen-inch plough between the first of June and the first of August. If broken before this time the grass is apt to grow up through the sod and render the ground almost worthless for wheat or any other crop without another breaking; if ploughed later the sod does not rot sufficiently in time for sowing. It requires four yoke of oxen to pull such a plough. The ground should not be broken more than three or four inches deep. It should be harrowed well with a heavy harrow in September and sowed with a drill. By this kind of preparation, sod wheat seldom fails, and generally makes the largest returns; but, boys, you can see that it takes a considerable little sum of money to begin such farming, and to carry it through properly, and the same is true of all prairie farming.

I once thought, as you seem to think, it would be a very nice thing to be a farmer on a prairie. I was poor; I suppose you are; so I went to Illinois and tried it two years. I am cured, as doubtless you will be, if you try it. That portion of Illinois (Coles county) in which I settled, was mostly in a state of nature, and its inhabitants mostly adventurers from other States, who finding land very cheap, laid out all their money in lands, and in many instances went in debt largely for real estate. The consequences were that nobody had any money to operate upon—nothing with which to build fences or erect suitable necessary buildings. In many places they attempted to farm without any fencing, while in others they had posts driven round and one plank put on. With stock roaming over the prairie, you may imagine what delightful work we had. We were all on a level. The man of means had brought himself down to the level of us poor, by investing his all in lands, and he, like us, had entailed upon himself "vexation of spirit;" and he, like us, was bound hand and foot, unable to turn anything to advantage; and he, like us, at the end of the year, found his troubles and his debts increased rather than diminished. After an absence of ten years I visited that neighborhood the present spring, and found some of my old neighbors, after passing through all the years of "high price" for farm produce, still involved in debt on account of injudicious investments in land, as above stated. There is one thing you may as well set down in your day book, and that is: No one can succeed in farming on a prairie without capital!

You may ask, "Where shall the poor go?" I answer: to a timbered county, where, upon your own land, grows the timber to make your own fencing and your own buildings; where you may, if you are not proud, even erect your own dwelling without any outlay except for the nails which tack it together.

Cheese as Food.—We remarked not long since upon the superior nutritive qualities of this food, as proved by the experience of laborers in certain countries, where it forms the strongest staff of life. We have since observed certain researches of a French chemist, Charles Mene of Lille, from which we learn that certain cheeses specified as Dutch, Gruyere and Roquefort, contain from 26 to 40 per cent. of nitrogenized matters, which are considered the most highly nutritive constituents of food. Consequently these cheeses are from 25 to 100 per cent. more nutritive than bread or meat, which is set down at 22 per cent. of nitrogen. In the combustible or fatty elements for heating the body by respiration, cheese yields only to butter and other fats. Again in point of mineral nutrition, cheese is found pre-eminent, containing seven to eight per cent. of ashes, whereas meat and bread contain only one per cent. The very richness of this article, however, prejudices its utility in delicate stomachs, where it is often found indigestible. The strongest food suits only the strongest digestion. The attention now given to an improved and increased manufacture of cheese is justified, and will naturally be stimulated by these facts.—*Scientific American.*

EXTRACTS AND REPLIES.

COLORING CHEESE WITH ANNOTTO.

I commenced twenty years ago to make cheese, and have made more or less every year since. We have found a ready sale at the highest market price and have never used any coloring; but as I rather like to be in fashion, I think I will try a little this year if it can be obtained readily.

Please inform me through the columns of your paper what is used to give cheese the fashionable color, when applied, whether in the milk or curd, and how much to use, and oblige a Maine farmer's wife. H. A.

Oxford Co., Me., 1869.

Remarks.—The foregoing inquiry was submitted to Mr. D. W. Heywood, of Barre, Mass., the writer of the article in the Farmer of last week on the cheese dairies of that town, who has kindly and promptly furnished the following communication, which, as will be seen, is not only an answer to the inquiry of Mrs. H. A., but a brief description of the whole process of cheese making. Mr. H. says the information was obtained from an intelligent cheesemaker, who has had charge of one of the Barre factories from its very start, and is therefore reliable.

Mr. Heywood's Reply.—When the morning's and evening's milk are united, strain the evening's milk and cool it with ice, or with cold well water, which may be done by placing the pails in tubs partially filled with cold water. In the morning take off the cream, mix with it twice the quantity of new milk. Add warm water enough to raise it to the temperature of 98°. Rub annotto through a silk cloth sufficient to make the curd of rich cream color. Put sufficient rennet into it to curd in twenty minutes. The curd thus formed is vigorously stirred after it has been raised to the temperature of 85°. To attain this temperature, use a vessel of warm water, or add warm water to it, as by putting it over the fire the least burning will spoil the cheese. While the curd is setting, cover with a cloth to prevent the surface from cooling. One-fourth pound salt to twenty pounds cheese is considered the right seasoning. Express all the whey.

At cheese factories the annotto is first dissolved in water, and then soaked in a weak solution of lye. In consequence of the adulterations in annoto there will be found a great difference in this article, so that no rule can be given in regard to a definite quantity, and the eye alone must be the guide. The superiority of factory cheese over that manufactured at home, lies in the fact that every process throughout is done well, or, in the vernacular of cheese-making, the curd is "well cooked." There is now some degree of competition between rival factories to obtain the largest number of pounds of cheese from a given quantity of milk; so that it is not always the case that the whey is fully expressed. Such cheeses prematurely sour and become unfit for the table. Private dairies may yet, therefore, bear off the palm.

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Mr. Willard while in England visited an annotto manufacturer, whose preparation is regarded as the best in that country. After conversing with him and with some London chemists, he concluded that all preparations of the article depend rather on its purity than on the preparation. All the best English annotto is cut with potash. To obtain a pure article he advises that it be purchased of a reliable person who is a good judge of it.

The American Cyclopædia says that annotto, a word which is variously spelled, is the name of a "red coloring matter extracted from the outer part of the seeds of an evergreen plant called the *bixa orellana*. Dissolved in an alkali, as a crude pearlash, its color changes to orange. It is more adulterated than almost any other article of commerce. It has been purchased containing over sixty per cent of chalk, and is often contaminated with red lead, so that cheese colored with it has been made poisonous."

At the late convention of cheese-makers at Elgin, Ill., the subject of coloring cheese was discussed. Mr. C. H. Wilder, of Evansville, Wis., said, "the practice of coloring milk or cheese, which is done by most cheese-makers East and West, is not only useless, as it adds no improvement to the cheese in richness or flavor, but is a waste of money, more so than is generally calculated, for in addition to the cost of the coloring matter, which is now no small item, the alkali necessarily used to dissolve the annotto in its preparation for the milk, neutralizes a considerable part of the rennet, so that more must be used to coagulate the milk than would otherwise be necessary."

Others followed with similar remarks; and the only defence of its use was based on the demands of the consumer, who requires that his cheese shall have a rich dandelion-butter appearance.

CULTIVATION OF CRANBERRIES.

Can you or some of the readers of the FARMER inform me whether it is profitable growing cranberries? I have a number of acres of swamp land that can be flowed. Some say it is very profitable on land so situated. If so, I intend to try an acre next season, and would like to be informed through the FARMER about the mode of preparing the ground for the vines and the setting of them out and where I can get them, &c. C. P. LUTHER.

North Dorset, Vt., June 23, 1869.

REMARKS.—We mail to your address copies of the NEW ENGLAND FARMER containing Mr. Hersey's articles on cranberries, thinking that you may be one of the many new subscribers that have been added to our list recently. If you are entirely inexperienced in the cultivation of cranberries, would it not be better to begin with a small patch at first? Cranberry vines are sold every year by those who make a business of selling them, but might not enough be learned and enough be saved by digging your own vines, to pay the expenses of a journey to the nearest cranberry patch from which you can contract for a supply? Cranberry raising, like all other kinds of business, is a trade, and whoever goes at it must serve an apprenticeship. There is no royal road to success in any thing.

CHEAP PAINT FOR BARNS.—COAL TAR FOR ROOFS.

I would like to inquire through the FARMER how to make a cheap kind of paint to paint barns and outbuildings, that will be durable and look well, so that a poor man that happens to have a good barn can have it painted. In this vicinity they use mostly the Brandon paint; but it soon looks old, and in order to keep a building looking well it must be put on often, which makes it about as expensive in the end as white lead.

Is it profitable to put coal tar on the shingles to preserve them, and how often must it be applied to long shingles to keep them from wearing out?

Cabot, Vt., June 22, 1869. C. M. FISHER.

REMARKS.—No paint, we believe, withstands "the tooth of time" better than Venetian red. There are houses in some country towns painted red so long a time ago that the memory of man runneth not to the contrary, and they look fresh to this day. The wood is admirably preserved, and appears as though it would not need another coat of paint for a quarter of a century to come. But, then, who would have *such* a color, on house or barn, some people would say? To our eye it does not look badly when the trimmings receive a shade somewhat different from the body of the building. In point of economy, there is probably nothing better. We would not shock the taste of any one by advising the use of red paint on a house or barn, but think we could live comfortably in a house so painted, all other things being agreeable.

For a cheap, white, silver or pearl gray "paint," a correspondent of the NEW ENGLAND FARMER gave, a few years ago, the following receipt for making a composition which he had used and found to be durable, cheap, and economical:—Skim milk, two quarts; fresh slacked lime, eight ounces; linseed oil, six ounces; white Burgundy pitch, two ounces; Spanish white, three pounds. The lime to be slacked in water, exposed to the air, and mixed in about one-fourth of the milk. The oil in which the pitch is previously dissolved to be added a little at a time; then the rest of the milk, and afterwards the Spanish white. This quantity is sufficient for twenty-seven square yards, two coats. If a particle of blue be added, or if this blue be combined with a slight portion of black, a silver or pearl gray will be obtained. The addition of raw umber will make a brown. It will be necessary to keep it stirred in the bucket while using.

Petroleum, benzine, &c., have been tried, for dark paints with various success. Some complain that it does not harden properly. The editor of the *Country Gentleman* has used petroleum with good success. He advises the application of a coat of light petroleum alone first, and then after a few months give a coat of the heavier petroleum mixed with the ochres or other paint. He has seen such a coat on a barn of six years' standing, hard and unchanged. It is recommended for roofs as well as for the sides of buildings.

With coal tar on shingles we have had no experience. The *American Agriculturist* says, soon after gas or coal tar became abundant it was utilized in many ways, and more or less as paint for wood and metals. Upon metals it gradually dried and formed a varnish-like surface little acted on by the weather. On wood a similar surface was formed, but not altogether by evaporation, for a portion of the tar struck in, and though it looked well ("black, but comely"), the result proved that when exposed to moisture, tar-coated wood would absorb it more or less, and generally decay quicker than if not coated at all. This is the case probably when shingle roofs are coated with tar. The practice is now generally, if not universally, condemned.

SANFORD, YORK COUNTY, ME.

With the exception of hay, the crops in this section look very promising, and are at least a week in advance of same time last year. Though we have had little very warm weather, vegetation is pushing along very fast. We are having plenty of rain, and farmers are busy thinning out "the tares that spring up to choke" the plants, preparatory to the approaching haying season. In consequence of winter-killing, hay will be rather light. There is very little old hay on hand, and that little will be held on to, not for a "big price," but to be fed to stock the coming winter.

The farmers of Sanford, though perhaps rather behind some of their neighbors in respect to the improvement of stock, are moving in the right direction. Durham and their grades are taking the place of "scrubs." Still, farmers are somewhat discouraged by the probability of low prices for stock this fall.

Wheat enough to furnish their own families with flour is raised by many of the farmers here, and some have a little to sell. The crop averages about twenty bushels per acre, one year with another, and the crop this year promises to be a fair one Though the farms are not large, the soil is good, and few farming towns in New England can show better buildings than Sanford.

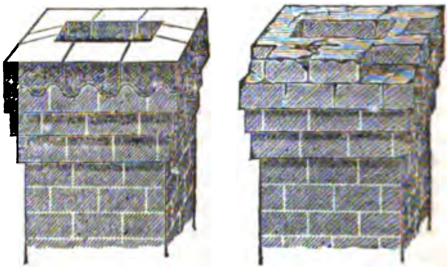
The township comprises about fifty-six square miles, and is situated on the Mousam river, which though only twenty miles in length, furnishes twelve good water privileges. There are two villages in the town; Sanford Centre and Springvale, —of which the latter is the largest. Here are a cotton mill with 125 looms; the shoe factory of Messrs. Cummings, employing about 100 men and girls; a saw, shingle and clapboard mill, a flour mill, &c., with some ten stores, two churches, &c. The village is adorned with fine shade trees, and greatly increased railroad facilities are soon expected.

Springvale, Me., June 26, 1869. ZEN.

REMARKS.—Our correspondent, "H. C. P.," writing at Garland, Penobscot County, says that as there was plenty of snow in that section, last winter, grass did not winter-kill as in the more southern part of the State, where there was less snow and more rain and sleet, and is looking quite well, though the crop may not be quite as heavy as last year. He mentions particularly some splendid looking grass on the farm of Warren Percival, Esq., of Vassalboro', which was estimated at two tons per acre,—the result of good management and high manuring.

CHIMNEY CAPS.

The jagged tops of many chimneys that we see remind us of the sailor who, while listening to the wailings of a tempest as it played among the shrouds of his ship in the open sea, pitied the poor landsmen whose heads were exposed to falling bricks and other perils by land in such a storm! But these fugitive bricks sometimes fall inside as well as outside of the chimney; and thus not only endanger those outside of the building, but by clogging up the flue obstruct the draught and fill the interior with smoke. To remedy all these evils, Mr. E. Myrick, of Groton Junction, Mass., has invented and patented a cast iron chimney cap, which being made in sections, corresponding to the length of bricks, is adapted to chimneys of all sizes. The sections being firmly locked together secure the chimney-head effectually. They are cheap, durable, and, as will be seen by the above illustration, are neat and ornamental.



OBSTRUCTIONS IN COWS' TEATS.

Last year one of my neighbors had a cow troubled with an obstruction in one teat, very near the orifice. It seemed to act like a valve: when squeezed no milk could be obtained. Various methods were tried, such as inserting quills, knitting needles, &c. These seemed to irritate. It finally got so inflamed and sore that he was obliged to dry the cow, which was fattened and sold for beef.

He purchased another valuable cow to take her place, and in about a fortnight after she calved she was taken in precisely the same way as the other. Any amount of squeezing would not bring a drop of milk. A quill was inserted as before; but it was very painful, and it took two of us to perform the operation. It was evident that unless some other method could be devised the milk would cake, and the bag, and perhaps the cow, be spoiled.

I then ordered for him one of Barland's English Cow-milking Tubes, which came promptly by return mail at a cost of forty cents. Part of the bag was by this time inflamed and the milk had begun to curdle. The tube was inserted without the least pain or trouble,—the cow never wincing. It required a little pressure at first to remove the curdled milk, but afterwards it run freely until that part of the bag was completely evacuated. The tube was used for two weeks, when the teat became all right, and remains so at the present time. These tubes are silver plated, about two inches long, and should be in the hands of every farmer, as many times their cost can frequently be saved by having them at hand when needed.

Cows frequently lacerate their teats while in the pasture, and every time they are milked, the wound is torn open afresh; consequently it is a long time healing. The operation of milking is also painful to the cow, and she will not give down her milk freely; so that, many times, the flow is considerably decreased by the time the teat is well. This can all be avoided by the use of one of these little tubes. S. C. PATTEE.

Warner, N. H., July 5, 1869.

ASHES ON WHEAT.—DRY GRASS IN A PASTURE.

Do you advise the use of ashes on wheat fields? If so, how should it be applied?

I have a pasture that has grown up for several years, and become so thickly covered with the dead and withered grass that my cattle wont feed it. What is the best remedy? Would you advise burning it over? A YOUNG FARMER.

Buckfield, Me., 1869.

REMARKS.—Sow ten bushels per acre of wood ashes on your wheat field at the time of sowing the seed. Scarcely anything would be better. Scatter by hand, broadcast.

Cut the bushes, if there are any, and burn over the pasture. Then scatter a bushel or two of plaster of paris to the acre, and on that a little white and red clover seed, together with a small quantity of timothy and red top seed, and harrow the whole in. If your labors are favored by the season you will need large milk pails next summer.

BLACK-LEG.

The loss of five calves by Black-leg, mentioned by your correspondent "Luther," of North Dorset, Vt., in March last, would not have been thought an uncommon occurrence in the higher parts of Virginia near the Alleghany mountains thirty or forty years ago, nor is it very uncommon to hear of a few dying almost every year now. But the disease is better understood there now than it was then. It is considered to be almost, if not entirely, produced by a change in the condition of the flesh, owing to a change in the quantity or in the quality of the food of the animal; that is, such sudden *decrease*, or *increase* in flesh, as is most likely to take place in the fall or spring. Formerly that disease was quite common at both seasons in that region. It was then customary for farmers to summer more stock than they could winter well; consequently as it was taken in the fall from their new and luxuriant grass fields, their animals often shrunk much in flesh, and sometimes *suddenly*; then in the spring when the stock, after being badly wintered, was all at once turned on rank grass they would often gain rapidly. Hence losses from Black-leg were common both spring and fall.

This disease was the greatest difficulty in raising stock that the people had to contend with there at that time. I have known in the bounds of my acquaintance more than one hundred to die in one fall, or in early winter. Indeed, I have no doubt that in two or three counties more than a thousand were lost yearly. Some persons almost gave up the idea of raising stock. After a while the cause was better understood and people began to take better care of their stock in the fall and winter, and such losses became less frequent. Black-leg is seldom spoken of now, except in connection with the remark that "that man is too careless with his stock;" especially is this remark used in the fall season.

I have known my father to lose twelve or fifteen in one fall, and at other times a less number, all of Black-leg. But after we come to know something of the nature of the disease we were well assured that it was all for want of proper care and attention, and this is now universally believed to be the only cause of the disease.

It is, though, much harder to guard against a change in the condition of the flesh in the spring, than in the fall; but then it is not near so likely to result fatally at this season as in the fall.

It may be proper to say that in later years it has been common to use sulphur, saltpetre, or copperas, with salt, and frequently soot, ashes and lime, as preventives, especially when first turned on fresh grass in spring, and also profuse bleeding. This practice of bleeding arose mostly from the fact that it had been found to relieve some cases after an attack of the disease. I have lost many animals by the Black-leg, but do not remember of a single case of my own that recovered. I did, however, know of one very bad case, where the hind leg of a calf was ripped open for more than a foot, and salt put in; the calf lived and got well; which I could not have believed had I not seen it myself.

West Virginia, June, 1869. J. H. R.

REMARKS.—This disease is called black quarter in England, and charbon in France. It is one of the forms of the disease called Anthrax, a Greek word, meaning coal. Mr. Murray, the Veterinary editor of the *Western Rural* says, "it is characterized by a peculiar alteration in the blood and tissues of the affected part. The tissues and blood of the part affected become much darker in color, and this has led to the term anthrax being applied to maladies of this nature." He agrees with our correspondent as to the cause of the disease, and says it makes its appearance suddenly, and is first indicated by the animal being lame in one of its legs. On pressing the skin of the affected quarter a crackling sound is produced, and on the skin being incised black colored blood issues from the wound. He also quotes Prof. Bouley, who has made the most recent investigations on the subject. The Professor says that the blood in this disease undergoes a change rendering it almost identical with putrid blood. He recommends the internal and external use of carbolic acid. In using this medicine he advises that incisions of two or three inches in length should be made through the skin of the affected quarter, and that the incisions should be washed with a solution composed of half an ounce of carbolic acid to a pint of water. The acid should be given internally twice a day in drachm doses, each dose being given in a quart of cold water.

TO RELIEVE CHOKED CATTLE.

In looking over your last issue I see a remedy, taken from the *Country Gentleman*, to relieve choked cattle, which prompts me to write to you. I think if eggs were given, as recommended, it would be pretty sure to relieve them by death, if the animal were choked by a potato or apple, as the swallowing pipe being stopped up, anything turned into the mouth must go down the breathpipe, which must cause suffocation. I will give you my way to relieve choked cattle. If the substance that they are choked with is above the brisket, so that you can feel it, place your hands back of it, and, with your thumbs on each side of it, gently and gradually shove it up and out. I have relieved a great many, and have never tried in a case but what I was successful.

Levi Davenport.

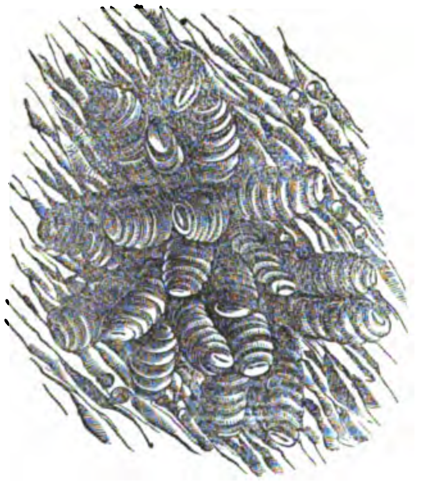
Colerain, Mass., June 28, 1869.

BOTS IN HORSES.

Enclosed in box you will find two worms, a sample of the kind of many that have passed my horse within the last few days. What kind are they, what do they originate from, and what shall I do to get rid of them? A Subscriber.

Quidnick, R. I., July 2, 1869.

Remarks.—The specimens sent are bots. We copy the following excellent illustration of a group of bots attached to the stomach of a horse, and a full history of the Bot, from "Stonehange, McClure and Harvey on the Horse," a very complete work, recently published by Porter & Coates, Philadelphia:—



Group of Bots attached to the Stomach.

The larvæ of the *œstrus equi*, a species of gadfly, are often found in large numbers, attached by a pair of hooks with which they are provided, to the cardiac extremity of the stomach; they are very rarely met with in the true digestive portion of this organ, but sometimes in the duodenum or jejunum in small numbers. A group of these larvæ, which are popularly called bots, are represented by the annexed cut, but sometimes nearly all the cardiac extremity of the stomach is occupied with them, the interstices being occupied by little projections which are caused by those that have let go their hold, and have been expelled with the food. Several of these papillæ are shown on the engraving, which delineates also the appearance of the bots themselves, so that no one can fail to recognize them when he sees them. This is important, for it often happens that a meddlesome groom when he sees them expelled from or hanging to the verge of the anus, as they often do for a short time, thinks it necessary to use strong medicine; whereas in the first place he does no good, for none is known which will kill the larvæ without danger to the horse, and in the second, if he will only have a little patience, every bot will come away in the natural course of things, and until the horse is turned out to grass, during the season when the œstrus deposits its eggs, he will never have another in his stomach.

The *œstrus equi* comes out from the pupa state in the middle and latter part of summer, varying according to the season, and the female soon finds the proper nidus for her eggs in the hair of the nearest horse turned out to grass. She manages to glue them to the sides of the hair so firmly that no ordinary friction will get rid of them, and her instinct teaches her to select those parts within reach of the horse's tongue, such as the hair of the fore legs and sides. Here they remain until the heat of the sun hatches them, when, being no larger in diameter than a small pin, each larva is licked off and carried down the gullet to the stomach, to the thick epithelium of which it soon attaches itself by its hooks. Here it remains until the next spring, having attained the size which is represented in the engraving during the course of the first two months of its life, and then it fulfils its allotted career, by letting go and being carried out with the dung. On reaching the outer air it soon assumes the chrysalis condition, and in three or four weeks bursts its covering to become the perfect insect.

From this history it will be evident that no preventive measures will keep off the attacks of the fly when the horse is at grass, and, indeed, in those districts where they abound, they will deposit their ova in the hair of the stabled horse if he is allowed to stand still for a few minutes. The eggs are, however, easily recognized in any horse but a chestnut, to which color they closely assimilate, and as they are never deposited in large numbers on the stabled horse they may readily be removed by the groom. Unlike other parasites, they seem to do little or no harm, on account of the insensible nature of the part of the stomach to which they are attached, and, moreover their presence is seldom discovered until the season of their migration, when interference is uncalled for. On all accounts, therefore, it is unnecessary to enter into the question, whether it is possible to expel them; and even if by chance one comes away prematurely it will be wise to avoid interfering by attempting to cause the expulsion of those left behind.

Dr. Dadd says, in some of his later books, that though he once believed, as most of the veterinary schools teach, that bots are harmless to horses, yet the facts of his experience and observation had forced him to a different conclusion. In one case where a horse died in his presence, "the autopsy revealed the presence of a large cluster of bots, numbering two hundred and seventy-five, located within and around the lower part of the gullet, and just within the entrance of the stomach; and so completely obstructing the passage that it was impossible for the food to pass," and he had no doubt that bots were the exciting cause of the death of the horse.

In one sense, all parasites may be said to be "natural"—lice on animals and trees, borers, tape worms, flies, fleas, ticks, grubs, &c, &c. But when in excess, if not at other times, all these are known to be injurious to the health and vigor of the plant or animal on which they prey. The scale louse, notwithstanding "the insensible nature" of the bark of an apple tree, will, if numerous, check its growth, if not destroy its life. Why then may not the bot prove injurious to the horse, as grubs do in the head of a sheep, or in the back of a cow? Still it is probable that bots do less injury than is popularly supposed, and that the books are nearer right than many believe.

The fact that bots are found in healthy horses when killed by accident, might only show what is generally understood to be true, that parasites often remain apparently inactive and harmless in ordinary states of the health of their victims, but in case of weakness, or fatigue, or fasting, or a cold, or other illness, they cause trouble and not unfrequently death.

But be this as it may, we have little faith in the efficacy of the multitudinous remedies for bots, with which horses are dosed. Regularity in feeding, with an occasional run at grass, or feeds of carrots or other roots, to preserve the general health, we should recommend instead of "powerful doses" of any kind. Mr. Youatt says, bots "cannot be removed by medicine because they are not in that part of the stomach to which medicine is usually conveyed; and if they were their mouths are too deeply buried in the mucus for any medicine that can be safely administered to affect them; and, last of all, in due course of time they detach themselves, and come away."

DUXBURY, VT.

Duxbury in Washington County, lies south of Winooski river, nearly opposite to Waterbury. It is almost entirely an agricultural town,—the dairy business being the most prominent as well as most profitable. The lumbering business is carried on to some extent in the section of the town nearest to the railroad.

It has within its boundaries the celebrated mountain known as Camel's Hump; being the second highest mountain in Vermont. The view from the top is said by some tourists to be the finest in the State Some of our boys had some rare sport one week this spring bear hunting. The trophies of the chase were an old bear and two cubs; the old one was driven to her den and shot by the glare of her eyes, Gen. Putnam style.

No town in the State can show a better war record than Duxbury, for its population. Strong young men filled up our quotas, and were marched quickly to the field; too many, alas, never to return. The old army coat or blouse, with the fatal bullet hole in it, or the faded cap, hang in many a closet in what appears to be happy thriving homes, as sad relicts of the lost and mourned.

The past winter was one of the longest foddering seasons I ever knew, and all kinds of fodder was used up in this section. If it had not been for the generous supply of Western corn, it seems as though some of our cattle must have starved.

Duxbury, Vt., 1869. G. H. C.

BARLEY.

What kind of barley is the most profitable to raise,—the bald or bearded? When should it be sowed? FRANK.

Woodstock, Vt., June, 1869.

REMARKS.—We prefer the bald. Sow as early in May as the soil will admit, on a sandy, or even a gravelly loam. It requires a warm, quick soil, but one moderately rich.

AGRICULTURAL ITEMS.

—A dairyman informs the *Maine Farmer* that having tried various things for sore teats on cows, he finds lard best, the most healing and softening.

—A patent has been obtained for the manufacture of water-proof paper. It will be no uncommon thing, by and by, to carry a quart of milk home in a paper bag

—At the recent Horticultural Fair at Rochester, N Y, several gentlemen stated that the currant worm would not disturb bushes under which coal ashes were liberally sprinkled.

—Corn may be sown up to the middle of July, or later; and that which is not needed for green fodder, should be cut and cured for winter use before the frost cuts.

—Anson Parker, of Londonderry, Vt., lately took an elm tree root from the bank of the river which measured forty-two and one-half feet in length, with a diameter in the largest place of three-eighths of an inch

—To protect cabbage plants from cutworms take last year leaves—oak is good—make moist with water, wrap once around the stem, when transplanting, extending from roots to a little above the leaf stem.

—The cabbage fly is committing ravages in Maine. It was first seen in America in Quebec in 1854, and was probably brought to the States in grain from Canada. It strongly resembles the common butterfly in general appearance.

—A. M. Winslow & Sons, Putney, Vt., lost two bulls recently valued at $4000, through the carelessness of a hired man, who washed the animals all over with tobacco essence for the purpose of destroying the lice, but the death of the bulls was the consequence.

—The West Milton Cheese Factory is now using 13,000 pounds of milk daily, from some of the best dairies in Vermont. Many of these dairies have native cows which average thirty, thirty-one and thirty-three pounds daily. The factory is turning out each day twenty-one and twenty-five cheeses, averaging about sixty pounds each.

—The *Rural New Yorker* publishes statements of two fleeces of wool shorn this season in Central New York from Merino rams two years of age, which weighed thirty-five pounds each. One fleece is to be scoured, while the owner of the other does not care to be at the trouble and expense of the operation.

—The Missouri *Journal of Agriculture* gives an account of a family of seven persons who stopped at a village through which they were moving and bought a sugar-cured ham. Being quite hungry six of the seven individuals ate some of it raw. All who ate of it soon became sick. A girl fourteen years of age had died from the effects of *trichina spiralis* in the ham. In a portion of the muscle of the arm of the girl that died, of only one-eighth of a cubic tenth of an inch, Dr. Hay of Chicago, counted with a powerful microscope forty-five of these minute worms.

—Last year the Mormons at Utah artificially irrigated and made fruitful 93,799 acres of land. Altogether, they had a large amount of land under cultivation: 80,518 acres of cereals, 1,817 in sorghum, 6,838 in root crops, 166 in cotton, 29,876 in meadow, 906 in apples, 1,011 in peaches, 75 in grapes, and 195 in currants. The larger part of these lands are artificially irrigated.

—It is not generally known that wool-growing in South-America has grown into such mammoth proportions as it really has. Even the Australian breeders have cause for alarm from this competition. It is reported on good authority that the number of sheep shorn there annually exceed 70,000,000. The exports of wool to Europe and the United States amounts to 230,000,000 pounds.

—A cup of coffee is a fair barometer, if you allow the sugar to drop to the bottom of a cup and watch the bubbles arise without disturbing the coffee. If the bubbles collect in the middle, the weather will be fine; if they adhere to the cup, forming a ring, it will be rainy; and if the bubbles separate without assuming any fixed position, changeable weather may be expected.

—A correspondent of the *Country Gentleman* weighed the hay that he had bought as a ton by allowing 500 cubic feet, and found it weighed only 1480 pounds. The hay was mostly timothy, with some clover and white daisy. The hay was over a basement, part two and part four feet deep, pressed with straw, but on pitching he found it was not as solid as he expected.

—A Western horticulturist has "discovered" that grape cuttings on a sunny and sandy slope root earlier than elsewhere, and he proposes to get out a patent to prevent others from using soils thus favorably situated. He has also "invented" a cellar of the right temperature and moisture for preserving vegetables, &c., and proposes to patent that also.

—A correspondent of the *Rural World* finds an ordinary hot-bed a capital place for drying fruit. A floor is laid inside on which to place the fruit. Then put on the sash, but be sure to raise both the upper and lower ends about two inches, to admit of a free circulation of air, or the fruit will bake as it would in an oven. Here the fruit will not be wet in a shower, nor will it be troubled with insects, which will be kept away by the covering and the intense heat. Parboiled green corn has been sufficiently dried in one day, in this way.

—Mr. Willard, in his address before the Wisconsin Agricultural Society last fall, stated that Mr. Fish, of Herkimer Co., N. Y., experimented in breeding cattle for milk alone, and succeeded so far as to make his herd give an annual average yield of between 800 and 900 pounds of cheese per cow, but that the constitutions of the animals became so impaired and weakened that it did not prove profitable. Mr. Willard thought all we should ask was for cows that will yield 500 or 600 pounds of cheese, and that can be easily made ready for the butcher.

—Mr. W. W. Glusher, of Madison County, Indiana, writes to the *Prairie Farmer*, that he has a Magee sow, that has given birth to sixty-nine pigs in a little less than twenty-nine months. They were dropped as follows:—January 27th, 1867, eleven; December 25th, 1867, sixteen; June 16th, 1867, five; August 22d, 1868, eight; January 11th, 1869, thirteen; June 15th, 1869, sixteen.

—The *Maine Farmer* says that a new society was formed at Monroe, June 26, called the Waldo and Penobscot Agricultural Society, with the following officers: *President:* W. B. Ferguson. *Vice President:* T. Mayo. *Treasurer:* A. H. Mayo. *Secretary:* F. A. Piper. *Trustees:* S. F. Mansur, Monroe; Bidfield Plummer, Winterport; Eli C. West, Frankfort; Rufus Littlefield, Prospect; James Nickerson, Swanville; Capt. James Huxford, Brooks; J. J. Chase, Jackson; Joseph Gilman, Dixment; Albert Whitney, Newburgh. The Society propose to hold a Fair early in the fall.

FREE PASTURAGE AT THE WEST.

When the new beginner at the West ploughs up five, ten or more acres of land, he builds a fence around it, which generally includes his house, and barn if he has one. The highways and all the other lands in the neighborhood are considered "unoccupied," and are common pasturage. This furnishes abundant forage for stock until about harvest time, when it becomes scarce or tough, and the more enterprising animals lead off the herds in quest of something better. Accustomed to shirk for themselves, these cattle become very unruly, and an old leader soon learns, like Job's Leviathan, to esteem fences as but straw, although built of heavy rails and to a height which to a New England farmer at first sight seems unnecessary.

Many years ago one of the editors of the New England Farmer cultivated a field of corn adjoining an Indian Reservation of two square miles in Michigan, which, with a large portion of the other land in the vicinity, was the common pasturage of the whole neighborhood. While standing sentinel in his cornfield he has seen an "old ranger" walk deliberately up to a corner of the Virginia fence, and, beginning at the top, scatter the heavy rails as a child does its cob-house. Another bullock, too lazy to hook, would deliberately lean his body against the fence, and if not too strong would crowd it over. Others would leap the fence like deers, or throw the weight of their forward parts upon it and crush it down. Hogs, too, would worm themselves through or under carefully built fences. With horses we had no trouble, as there were but few in the neighborhood.

All this is exceeding annoying to one who has watched the growth of his first crop with an interest which can be appreciated only by the new settler, and who looks upon it as the only means of subsistence for his family during the approaching winter. It engenders ill feelings towards one's neighbors and dissatisfaction with the new home. It disheartens, and stirs up the "homesick" more perhaps than anything else that is experienced in making a farm in a new country.

A correspondent of the Missouri *Rural World*, in an article advocating some change in the laws of the State respecting cattle running at large, makes the following statement, which recalls most vividly our own experience, and which may be suggestive of the experience of many New England farmers who are about emigrating to the West:—

> Our prairies are covered with breachy cattle and horses. Horses that will jump over five feet, without touching, are constantly preying upon wheat fields and corn fields; they nip grass in the day and do mischief at night. Cattle do little damage until corn ripens; then the grass begins to dry up and they seek something better. One of my neighbors is engaged in raising horses and mules; another has one hundred and six head of Texas cattle; others from three to fifty head—all unherded.
>
> Last summer one of my neighbors put eight acres of corn in a field, inclosed by a worm fence, six rails high. He attended to his crop until the middle of July, when the horses entirely destroyed it by night. Early one morning I drove eleven head out of the field. Another neighbor, by working early and late, inclosed a field with posts and poles. He put in twelve acres of sod corn. Neighbor Mule Raiser's stock ate it up by nights, just as it was ripening, although the owner worked desperately to save it. Thus, working all summer to make a crop, and all winter to make up for its loss—a year of toil and care has left these neighbors poorer by far than they were a year ago. One neighbor had a good eight-rail stake and ridered fence knocked down by stock several times last year.
>
> I have talked with several men upon the subject, and have yet to find one who did not suffer more or less by the depredations of stock last year. The Mule Raiser's mules and horses may be found every night or so in a twenty-acre wheat field near my house. If a man has his fields inclosed by a lawful fence, and can find out to whom the stock belongs, he may obtain redress by employing a lawyer and having a law-suit; or I should say a dozen suits for the same number of horses belong to as many different parties. If his fence is unlawful, there is no remedy. In the western and southern parts of the State, not one-third of the fences are lawful. Timber is very expensive and so scarce that a large majority have contented themselves with Shanghae fences until they can raise hedges.

A POOR MAN'S ROLLER.

A writer in the *Prairie Farmer* says, "we are making and using a machine which in many respects is preferable to a roller, and very much cheaper, and within the reach of every man who has a saw, hammer, nails, and a few boards or plank. Take plank about twelve inches wide, two inches thick and eight feet long; lay them flat with the edge of one just upon the edge of another; then take a piece of scantling, two by four inches, hard wood if convenient, and cut it to fit upon the top of each plank to hold them together; three of these pieces firmly nailed or bolted to the plank, one near each end, and one in the centre. Near each end of the first plank laid down, bore holes for a clevis, to which attach a chain as used on road scrapers, and the work is done—the thing is made and ready for use; but who will name it?"

We would suggest that it be called the leveller. We are reminded by the above description of a machine which we saw a few days since, which did very excellent work in smoothing and working the soil to very fine tilth. It was a small harrow with fine teeth, of a somewhat peculiar form, which may be used by itself as a horse hoe. To the hind part of this harrow has attached by a chain and clevis a platform—the under face of which resembled the leveller described above. It was about four feet wide by five long, made of hard wood scantling, about four inches thick by eight wide, held together by iron bars on the upper face, firmly bolted on. Holes were made, as in the one described above, through the end bars and scantling for the clevis. This harrow and leveller worked by two horses, is a very efficient implement. The platform may be loaded with as much weight as may be desired. The implement described in the *Prairie Farmer* follows the harrow drawn by another team. In the one we saw the harrow and leveller are drawn by the same team at the same time. It may be detached from the harrow and used separately, in which case a lighter team would be sufficient.

FATTENING SHEEP IN WINTER.

DURING the annual winter meeting of the New York State Agricultural Society at Albany, last February, a paper was read on "The Fattening of Sheep in Winter" by Jurian Winne, Esq., of Bethlehem Centre, Albany county, New York, which has been published in pamphlet form. Mr. Winne has been engaged in fattening sheep for about twelve years, and for several years past Mr. Henry Goodnough of Brighton has purchased a portion of his feeding for this market, where the mutton bears a high reputation. Last spring while Mr. Winne was at this market with some of his sheep, he called upon us, and we had a few moments conversation with him. Having frequently heard the superior quality of his mutton spoken of, and having understood that his farm was near the city of Albany, we had supposed that probably he was some "side-walk farmer," who, having made a fortune in commerce or other business, had retired and was fattening sheep as an amusement or relaxation, and with more regard to a good reputation for the style of his goods than to the cost of their production. He informed us, however, that he was "nothing but a farmer," and had never engaged in any other business. The land he tills has been in the possession of his ancestors since the first settlement of the country, and had become so badly run out that, in his own words, "it would hardly grow a crop of good beans." He therefore went into the sheep-feeding business more with a view to the consequent improvement of the land than to make the ready dollar. He says in his pamphlet, as he stated to us, that,—

> In this I have fully succeeded. I wanted to make two spears of grass grow where but one grow before. and I am sure I am getting three, some of my neighbors say four; however, I call it three. The meadows that used to cut from one-half to one ton of hay per acre, now yield on an average over two. Raising rye was then out of the question; last year I got from about sixteen acres, four hundred bushels of rye, and straw enough to have amounted to near nine hundred dollars, if I had sold it (which I never do, unless I replace it by hay for bedding, as I have done this year, getting three tons of hay for one ton of straw) This year I got from forty-five bushels sowing, fifty loads.

But though thus successful himself, and willing to communicate to others the whole art and mystery of the business, so far as one man can convey to another his acquired skill and the teachings of his own experience, he adds the following caution to those who may be disposed to attempt to follow in his footsteps:—

> I must say, that with all the experience and precaution in buying, good fixtures, plenty of feed, litter, care, &c., you will not always succeed. For though I have for the last twelve years studied the thing closely, and carried it out carefully, in spite of all my efforts I have not always made money, and would almost guarantee that out of every ten new sheep feeders, eight will probably feed but one year. When a friend asks my advice on the subject, I always say to him, try twenty-five or fifty, and then if you like it, get more the next year. Some have looked upon this advice as selfish, and given to keep others out, and have rushed into the business, and not only the first year made no money, but actually lost nearly half their investment. We used to have several sheep feeders in this and adjoining counties, and as the principal feeders have all left the business except myself, I think this is pretty conclusive evidence that what I now say is about right.
>
> A person to succeed in sheep feeding, must do it because he likes to do it—because he prefers to feed sheep and see them eat, to any other business done in winter; and although he may not be able or willing to do the work himself, still he must take delight in seeing it well attended to, if he expects to prosper. He should be sure to see every sheep he has, at least once a day, when, if he understands his business, he can tell at a glance whether they have been properly cared for.

If our space permitted we should copy the whole paper, but must content ourselves with a few extracts.

Stock for Feeding.

> My first rule is, always to buy good stock, whatever the breed may be, and to be sure to select animals kindly disposed to fatten. The price of well bred sheep may appear to be high, but depend upon it, if there is no money in feeding good stock, there is no money in poor. A one-dollar sheep will consume about as much feed as a six dollar one, and as neither of them can be fed through the feeding season for much short of five dollars a head, you will readily perceive that the one dollar sheep would stand you in six dollars, the other eleven dollars.
>
> According to my experience, the one-dollar sheep would weigh in the spring about eighty pounds, and sell for seven cents per pound, which would make five dollars and sixty cents—a loss of forty cents; when the six-dollar one would weigh at least one hundred and twenty-five pounds, and sell for ten cents per pound, making twelve dollars and fifty cents—a profit of one dollar and fifty cents, besides getting the credit in the one case of bringing good stock to market, and

in the other such as will be hooted at, and reported for you as *scalawags*. Now, as every good citizen values his reputation (and what is a man good for without it,) I think this last item should not be lost sight of.

In my twelve years' experience in feeding, I have found the breed of sheep to have much to do with their early maturity, weight and fattening qualities. I have had Leicesters and their grades, Cotswold grades, South Down grades, Merinos and their grades, and have always found that whenever the Leicester blood predominated, I had an animal that would fatten quick at an early age, and make good weight, and have had no trouble when the animal has been half or more of Leicester blood, with good keeping, to make him dress one hundred pounds of mutton at twenty months old. As to fine wools generally, I am fully convinced they will not make me more than half the money for winter feeding that coarse wools will.

Conveniences for Fattening.

After describing the general arrangement of his barns, he says: —

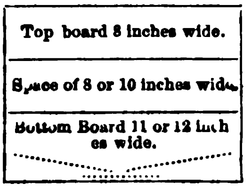
The next building I shall mention, which I will call shed No. 1, is twenty-one by twenty-four feet, sixteen foot posts—on the south side of the barn. The upper part of this building is filled in summer with market hay, which is pressed out and sold in the fall, the floor covered with sawdust and leaves. I always advise when practicable, to put in the sawdust before harvest on the upper floor. It then has time to get nice and dry, thereby not only preserving the floor better, but also absorbing the more liquid manure from the animals. When the time arrives, forty sheep are put up and kept there until they are sold in the spring. Of all my feeding yards and stables, I always find that these second-story sheep do the best. The lower part of this building has manure piled under it in summer, as I always like to have what manure is not used in the spring under cover through the hot weather; it is taken out clean in the fall, and the shed arranged the same as the upper part, and, together with an open yard about twenty four by sixty feet, holds sixty sheep. These sheep always have the run of this yard with the shed, except when it is stormy, and then they are closely confined to the shed.

He then describes other buildings and sheds of similar construction, but of different sizes, sufficient for the accommodation of the six or eight hundred sheep that he usually feeds.

Feeding Boxes.

After much observation and experiment, Mr. Winnie has adopted a crib or box of which he gives the following description:—

Length 12 or 14 feet; width 22 inches. The bottom, indicated by the dotted lines, slanting from both sides and resting on a board in the middle, forming a complete trough for grain or roots. The bottom side boards should be 11 or 12 inches wide —then a space left of 8 or 10 inches according to size of sheep— then the top boards, 8 inches wide —the ends and sides to match. Corner pieces of scantling in the inside, of hemlock or oak, as pine will not hold a nail or screw, the latter of which is preferable in putting them together.


Top board 8 inches wide.
Space of 8 or 10 inches wide.
Bottom Board 11 or 12 inches wide.

End of Box.

The corn or other grain for seventy-five sheep can be put in four of these boxes from a bag on a man's shoulder in one minute; and hay, roots, &c., are supplied with equal facility. The sheep feed quietly, and no fodder is lost, on the importance of which Mr. W. remarks:—

It makes quite a difference whether five hundred sheep waste a pint of grain per day, which I am satisfied was more than my whole flock wasted last winter, or whether they waste half a bushel per day; also whether we waste one hundred pounds of hay per day, or whether four or five hundred pounds will cover the waste for all winter. These wastings are what hurts.

These boxes have only to be turned over and back again, and they are clean. No dirt can get in from the sides, as the space between the upper and lower board is too narrow, and the box being from twenty-eight to thirty inches high, no dirt can get in from the top, consequently when the box is turned over and back again, it is always clean.

What Grain is Best?

I answer, for me, corn is the best for the main feed, although I like a few oats mixed to start with, and have no objections to beans, peas and oil meal, if they do not cost too much. Whenever they cost as much, or more than corn, I dispense with them, as a sheep feeder must count his cost as well as his reputation, if he intends to succeed. Another question arises: "Do you find whole or ground feed best?" For horses, cattle and pigs I prefer ground feed, but for sheep, especially fattening sheep, I choose whole or unground feed. I find that the sheep will grind it just as well as the mill to which we must give every tenth bushel, besides having the trouble of hauling the grain to and from it. I also find that fat sheep will hold up to their full feed much better, especially in soft weather, on whole, than on ground feed; consequently drawing grain to and from the mill, and paying toll, is, in my estimation, labor and money lost.

What Hay is Best?

Emphatically I say clover, but it should be cut early, and cured nice and green. Timothy is probably best for horses, but for cattle and sheep I prefer clover, and would rather have a ton of nice, green, fine clover, than a ton of timothy, although in market one ton of timothy will bring as much as two of clover. I have sometimes fed some timothy hay to my sheep, but always found that it was not the kind for them; they would grow lank and thin upon it—not a very good sign that a fattening animal is thriving well. As soon as they got the clover again they would plump up and look full and nice, and I can assure you unless your sheep look full and plump, they are not fattening very fast.

Straw and Cornstalks.

One feed at noon of nice bright oat, barley or pea straw, I prefer to hay, as they not only relish it, but it is a change for them. Sheep are very fond of variety, and will eat daisies, weeds, thistles or almost anything of the kind that is cut and cured green. Nice green cornstalks are not very bad for sheep, and when I have plenty of them I always feed the sheep with them, at least once a day, and consider them as good as hay. I prefer, however, feeding them the fore part of the winter, as towards spring they will sometimes contract dampness, and then the sheep do not eat them so well.

Value of Roots.

Mr. Winne says that he has used more or less roots every year since he commenced feeding sheep, and he advises feeders to cultivate them by all means. After stating his mode of cultivation, he thus speaks of their value:—

> My experience is, that whenever they are worth at home more than seventy-five cents per barrel, and corn not over from one dollar to one dollar and twenty-five cents per bushel, the corn is the cheapest, and I would use only a few roots as a substitute for green food. I consider carrots and ruta bagas better than common turnips; still by feeding a little more of the latter than the former, I think the sheep do just as well on them.

The importance of keeping the sheep quiet; of supplying good dry bedding; of regularity in feeding, watering, salting, and furnishing them ashes, &c., are urged as essential elements of success in sheep-feeding. So important is quiet and comfort to fattening sheep that the effects of the presence of a stranger in their yards or stables for a few moments will be perceived for a whole day afterwards; indeed, in his opinion, the only time they accummulate flesh is while they are reposing on a fine dry bed after their appetites have been satisfied. He applies tar to the noses of his sheep at least four times during the feeding season. To do this, he makes a little pen with his feeding boxes, into which he gathers a portion of the sheep, and with a wooden ladle applies the tar without catching or handling the sheep. He commences feeding at half-past five in the morning, to which he gives his personal attention. Unless he fears danger to the building from the weight of sheep and accumulated manure, he does not clean out his stables until the sheep are sold. The manure is then so hard and solid that it must be cut with an axe or hay-knife into blocks before it can be handled—thus showing that no decomposition has taken place during the feeding season.

Mr. Winne informed us that some of his friends had censured him for publishing the particulars of his process in fatttening sheep. Having acquired his skill by much careful study and many expensive experiments, they said he was under no obligations to give the public the benefit thereof. If he had made valuable discoveries in this branch of farming he was entitled to the benefit of them, and others should be left to find out the secret of his success as best they might. But he did not so regard the matter. He esteemed it the duty of every man to do some good in this life, to make the world better for his having lived in it; and if his experience in his humble sphere was of any benefit to his brother farmers, he was not only willing but rejoiced in being able to communicate it to them.

FIVE O'CLOCK IN THE MORNING.

The following popular song, as sung with such thrilling effect by Mme Parepa-Rosa, will be new to many of our readers. In its way, there is hardly anything prettier in the language.

The dew lay glittering on the grass,
  A mist lay on the brook;
At the earliest beam of the glowing sun,
  The swallow her nest forsook;
The snowy bloom of the hawthorn tree
  Lay thickly the ground adorning.
The birds were singing on every bush,
  At five o'clock in the morning.

And Bessie, the milkmaid, merrily sang,
  For the meadows were fresh and fair;
The breeze of the morning kissed her brow,
  And played with her nut-brown hair;
But oft she turned and looked around,
  As if the silence scorning;
'Twas time for the mower to whet his scythe,
  At five o'clock in the morning.

And over the meadows the mowers came,
  And merry their voices rang:
And one among them wended his way
  To where the milkmaid sang;
And as he lingered by her side,
  Despite his comrade's warning,
The old, old story was told again,
  At five o'clock in the morning.

For the New England Farmer.

PLANTING FRUIT TREES.

Much has been said relative to the planting and growing of fruit trees, in the FARMER during the past few years. But perhaps a few remarks upon this important subject, though not wholly new, may interest some one of your many readers. It seems a very simple thing to plant a tree, and almost every one thinks he knows how to do it. But seldom is it well done. It is a more important operation than is generally supposed, for all its future health and fruitfulness are directly dependent upon it.

Right planting is the foundation and corner stone of all successful horticulture; it is one of the fundamental principles that produce vigorous trees and an abundance of fruit.

More than one-half of all the fruit trees planted in this country die, or fail to yield fruit, for the simple reason that they are not properly cared for. Fruit culture means more than leaving a tree to take care of itself. It demands care, watchfulness, patience, hard work, strong effort, and above all, intelligence and forethought.

Plant *young* trees, both in your orchards and gardens. They cost less in actual price, in freight and in planting, than older trees. They are surer to grow, have more and better fibrous roots, and will adapt themselves quicker to the soil and location. With equal watching and care they will grow so vigorously as to excel older trees, in abundance of fruit, size and health. Never choose standard apples, plums or cherries, more than two years old, and dwarf trees one year old.

Be careful in your choice of *soils*. A sandy soil is leachy, contains no moisture, and is liable to drought. A very heavy, clayey soil is directly the opposite, being too wet, tough and adhesive. Few or no fruit trees do well in either. A gravelly soil is hardly more desirable. A deep loamy or alluvial soil may always form a good choice.

When you are ready to plant, plough with a subsoil plough as deep as possible a strip six feet or more wide; then dig holes a foot or eighteen inches deep, and about three feet in diameter. Place the tree at the same depth it formerly stood; then replace the earth, taking care not to bend or break the rootlets of the tree, and always allow abundance of room for the growth of the roots.

Many inexperienced persons lose their trees from too deep setting. No tree should be set lower in the earth than its original position. Where the ground has not been ploughed and subsoiled, the planter must invariably dig his holes two feet deep and four or more wide.

Mix with the earth, before it is returned to the hole and is placed around the roots of the tree, a good compost of ashes, chip manure, leaf mould, muck and lime. Let a large portion of the compost be placed beneath, but not in contact with the root of the tree, and the remainder on the surface of the ground to act as a mulch. The quantity will vary from a half bushel upwards, according to the size of the tree. The effect will be most marked, and the growth astonishing

If any of the roots are mutilated or bruised, pare them off with a sharp knife to prevent decay, cutting back on the under side until you reach sound wood.

Nearly all trees that come from the nurseries have lost some of their roots; consequently their branches should be shortened in the same proportion. At the time of planting, prune all branches back to three or four buds from the base of each branch.

All large trees will require stakes; young trees firmly set, will not. Mulching is almost indispensable. The earth should rise like a small mound toward the trunk of the tree, and over this should be a mulch two inches deep of hay, half decomposed manure, saw dust or tan bark. It not only saves the labor of cultivation, but prevents the moisture of the soil from evaporating, renders the temperature more uniform and prevents injurious effects from frost. The mulch should extend beyond the tips of the roots.

Cultivate the ground carefully. Never allow grain crops, nor root crops of an injurious nature, to grow in the field. Neither allow grass nor weeds. The cultivation and manuring necessary for growing some kind of judicious crop between the rows, as potatoes, beets, or turnips, will always prove a benefit. If no crop is grown, go through frequently with the cultivator or horse hoe and stir the soil two or three inches deep. A thorough stirring of the soil is nearly as good as a coat of manure.

If trees are dried by too long carriage, they may be restored by immersion for a day or two in water or thick mud. Use no water in planting. It tends to bake and harden the surface of the earth, and generally proves injurious. Mulching will supply all the moisture necessary.

Careful pruning is essential. By careful pruning is not meant cutting off large, healthy, vigorous branches; but it does mean the cutting out of all diseased branches or dead wood, and such smaller shoots and branches as appear to prevent the free access of sun and air to all parts of the head of the tree.

If farmers would only cultivate their trees as well as their corn, they would have little occasion to utter complaints against poor orchards or poor fruit. M. S. W.

Mason, N. H., June 5, 1869.

For the New England Farmer.

OUR QUIET VILLAGE.

A standing complaint against our village is that it is too quiet. But to the writer this very characteristic seems an attraction; but let me just here inquire if it is worth while to mix the noise and commotion of a manufacturing village with the comparative quiet of a farming community. No vindication is proposed of that lack of public spirit which characterizes this and that staid old farming town, nor any defense of that disposition to discourage new enterprises, and keep in the old ruts from generation to generation, which is too prevalent in some districts of New England.

But, when we reflect, is it to be wondered at that a community, mainly agricultural, should pursue the even tenor of its way quietly as the succession of seed-time and harvest, and calmly as the procession of the seasons? The farmer, indeed, craves excitement as well as any man, and gets it with interest sometimes in his town or parish meeting. And the winter need not be to him a dull season, if it be one of comparative rest. In fact he can then be the liveliest of mortals, while those heavy burdens which the busy season imposes are happily rolled off. He can also improve the opportunity to make a trip to the metropolis, and contrast its crowded, brilliant thoroughfare with his own humble highway. A day spent amid its sights and sounds will quicken and enlarge his ideas for the rest of the year, and endear him more closely to his own calm retreat and "silent shade." And then how grateful to his city cousins is the very thought of that "haven of peace" up in the country whither they can flee in the summer, and forget for the time the noise and confusion amid which they live and move.

In fact it is matter for thanksgiving to Him who made the country, that there are such calm retreats for this fast age and generation, where the fevered blood can cool, and the over-taxed brain be soothed to the rest it claims. And our quiet, unpretending villages are every year coming to be more and more favorite places of resort for families from the city, in preference to fashionable watering-places and hotels by the "sounding sea." True, our country life grows dull after a while to the city belle and beau, and the stirring business or professional man who lives in excitement, gets to be uneasy after a while, as a "fish out of water." Well, let them then return to their native element until the next vacation season comes round, while we that remain behind will hold on our quiet way till our summer guests return. The town has its distinctive features, and so has the country, and in attempting to engraft the former on the latter we are trying to join together what God hath put asunder. Is it not so?

Yet, every now and then, the cry is raised, "why don't you have more going on here?" Meanwhile farming operations are steadily going on, day by day, year in and year out. Summer has its work and round of duty, and winter brings its appropriate cares and toils, though the former season is distinctively the busy one. One is peculiarly the time for brain work, the other for manual labor; one for culture of mind and heart, the other for tilling the soil. But all the year round there is enough in the humblest hamlet to keep it from stagnation.

Suppose for a moment that this quiet feature of our village should no longer distinguish it, and it should come to be, so to speak, a cross between town and country: suppose instead of the exclamation "How quiet your street is," every new comer should remark, "How changed from your old quiet!"

So far as this implied an increase of enterprise and public spirit, and more frequent social gatherings, the change would be a manifest improvement. But to substitute for our prevailing calm the noisy bustling activity which some hanker after, would seem like substituting for our sweet Sabbath bell the steam-gong's unearthly yell, that would make the fathers turn in their coffins.

If more noise is wanted, the multiplication of reaping and mowing and threshing and sowing machines will fast meet this want; and as for the rest, it is only necessary to set the gossips and busy-bodies by the ears.

No doubt the writer's view of the subject is biased by his own private taste and temperament, and no man ought to set up his own personal preference as the rule for all. There are in both town and country, "many men of many minds," but let me just repeat the query, whether it is really desirable to obliterate the old familiar feature of a farming village.

It is sad indeed to contemplate the death-like stillness of a deserted village, with its crumbling old business stands and grass-grown highway. And it is aggravating to find anywhere in this great progressive nation a family or community stagnating for want of enterprise. But what flock is not grateful to the Good Shepherd for leading it now and then "beside still waters?" W. E. B.

Longmeadow, Mass., 1869.

WHAT IS RUST ON GRAIN?

In 1867 the farmers in Australia lost so much by the red rust on wheat that the Governor of the Colony appointed a Commission to investigate the subject. From the report of that Comminssion, which we find in the *Southern Cultivator*, we make the following extracts:—

> As regards the physiological character of red rust, there can be no doubt whatever that it is essentially a vegetable parasite or fungus, attacking the plant externally, and brought into active operation by certain atmospheric or climatic conditions, the most effective of which last year were heat and humidity. During the growing season, the blades of cereal plants were kept in a continual state of dampness, with occasional rapid evaporation, causing the pores of the leaf to be more than ordinarily open, and thus facilitating the entrance of the infinitely minute spores, or seeds, of the rust fungus, which are more or less always floating in the atmosphere, or deposited on the soil or surrounding objects, ready for dissemination by every wind that blows.
>
> The spores of the rust are proved to be true seeds, possessing a uniform and definite character according to their variety, retaining their vitality as other seeds do, and capable of being developed at any time by the application of heat and moisture. Your commissioners have examined through the microscope various specimens of last year's rusted wheat, and find the rust spores identical in appearance with those noticed and delineated by Mr. Cooke, and other eminent mycologists, who have written on the subject. It is found as the almost uniform result of last year's operations, that rust has prevailed upon all kinds of land —upon lands long cropped, upon fallow lands, upon grazed lands, upon virgin soil, upon manured lands, upon the plains, and upon the hills. But more than this, it has been proved that in nearly every instance the richest lands have suffered the most from red rust, and that,

in a large number of cases. the best crops have been from the poorest natural soils, and from those most exhausted by frequent cropping. It is an almost universal fact that wherever the wheat grew most luxuriantly there the failure has been complete; whilst those crops that in the early part of the season were the least promising, as a rule, turned out by far the best sample and the heaviest yield. This very remarkable circumstance, attested by hundreds of witnesses, is thus accounted for: Luxuriance in vegetation, like excessive fat in animals, is not identical with vigor. Plants forced into abnormal luxuriance are more susceptible of climatic changes than those which are tough and hardy. The more juicy and succulent the plant, the more predisposed is it to the inroads of the rust. The pores of the leaf being unusally open, the minute spores of parasitical fungi can more readily enter. Then again, the more dense and heavy the crop, the less possible is it for the wind to circulate, and the saturated leaves to dry. On the other hand, in a thin, light crop, the leaf pores being less open to the entrance of the rust seed, the disease is not so freely propagated, whilst the whole crop is far better situated to enjoy the drying influences of the wind, which retard the development of the parasite. The poor crop has thus the advantage over the thick and luxuriant crop in a season favorable for the development of rust. Hence, so far as red rust is concerned, rich soils, and what is termed "high farming" instead of shutting out the disease or mitigating its severity, operate in the contrary direction, always supposing that the climatic conditions favorable to the development of rust are present.

The *modus operandi* of the disease is twofold. The rust spores, obtaining entrance through the open stomata, or breathing pores of the plant, are very quickly developed, and, pushing forward rootlets (*mycelia*,) gradually work their way along the sap vessels of the leaf—in all probability injuring, by their multiplication and progress, its internal mechanical structure. But the chief damage—or, at all events, that which can with most certainty be traced—is caused by the absorption of the wheat sap by the parasite that has entered its channels. The juices that should have gone to nourish the wheat ear are intercepted in their progress by the rust fungus, which starves the grain by living on its proper nourishment. This is not only deduced from microscopic observations, but is clearly demonstrated by chemical analysis. Healthy grains of wheat contain certain definite proportions of inorganic ash—the ash, in its turn, containing definite proportions of phosphoric acid, potash and soda, and magnesia. It has been demonstrated that rusted wheat is very deficient in that ash, having sometimes less than one-third its proper quantity. On the other hand, the rust spores, gathered from the rusty wheat, yield, on analysis, an extraordinary quantity of ash, which is found to contain a large amount of the constituents present in the ash of healthy wheat, but wanting in the ash of rusty wheat. The commissioners say that crops from seed brought from a distance were affected with rust equally with that grown in the same sections; and that the use of good plump seed is no protection from the disease, but that in many cases shrivelled and inferior seeds have yielded healthier and heavier crops than those raised from first class seed. Still they recommend that the seed be pickled. for the purpose not only of killing the spores of black rust or smut, but also to destroy spores of the red rust which may happen to attach to it.

CHEESE MAKING IN A SMALL WAY

Sometimes the farmer who keeps only a few cows to supply his family with milk and butter, would like also to make a few cheeses for family use. He does not care to make cheese to sell and therefore hardly feels able to purchase cheese apparatus and fit up a dairy house after the most approved models.

Let us see how cheaply we can arrange for a primitive dairy. If nothing better is at hand a common washtub, clean and sweet, will answer the purpose for setting the milk and working the curds.

A hoop must be had from the cooper. Let it be ten inches in diameter top and bottom by twelve inches high and fitted with a follower. A very good press may be made in a few hours from a twelve foot plank and some pieces of scantling. About a foot from each end of the plank set up two short pieces of scantling four and one-half inches apart. Fasten them firmly to the plank with bolts or pins. The lever may be a joist four by four, or four by six, and fourteen feet long. One end is to be secured by a pin passing through the uprights at one end of the plank and it is to move freely up and down between the uprights at the other end. A weight hung at the end of the lever and you have a press that will do good service.

The hoop is placed near the stationary end of the press-beam and blocks put upon the follower and the press-beam let down upon them, and in this way the cheese is pressed.

A long, thin, wooden knife will do for cutting the curds. Now a gallon of good milk (wine measure) will make nearly a pound of cheese.

Your milk having been placed in the tub and the number of gallons known, a portion may be taken out and heated in pans over a common stove. The pan holding the milk should be set in another pan holding water, or over a kettle with water in it, so as not scorch or burn the milk in the pan. Heat the milk and pour into the tub until the mass indicates a temperature by the thermometer of 85°. Then add a quantity of rennet (which has been previously prepared by steeping the dry skins or rennet in water,) sufficient to coagulate the milk say in forty to fifty minutes. Now put your finger into the curd, raise it slowly and if it readily splits apart, the mass is ready to cut into blocks with the curd knife. After cutting into checks two inches square, let it remain at rest ten to fifteen minutes for the whey to form. Then carefully break with the hands by lifting up the curds very gently, and when the mass has been gone over let it rest for ten minutes for the curd to subside. Now dip off a portion of the whey into the pans and heat on the stove in the same manner that the milk was warmed. In the meantime continue breaking the curd by gently lifting until the particles of curd are about the size of small chestnuts or large beans. Then pour in the warm whey and continue heating and adding the warm whey until the mass indicates a temperature of 98°.

Do not be in a hurry, but take things leisurely, continuing the breaking or stirring the curds while heat is being applied. It may now be left at rest for half an hour and then stirred so the particles will not adhere, and this treatment continued until the curd has a firm consistency. Take up a handful and press it together in the hand and if on opening the hand it readily falls to pieces it is about ready for draining. Throw a cloth strainer over the tub and dip off the whey down to the curd. Then put the strainer on a willow clothes-basket and dip the curd into it to drain. It may now be broken up with the hands and when pretty dry returned to the tub for salting. Salt at the rate of four and one-half ounces of salt to ten pounds curd; mix it thoroughly and put to press. After remaining from two to four hours in press, turn and put to press again leaving it under pressure until next morning when it may be removed to the shelf. Small cheeses need not be bandaged; they should be rubbed over with a little fresh butter melted and applied warm, or with oil made from the cream that rises from the whey.—*X. A. Willard, in Western Rural.*

GEOFFREY PIT.

Sir Samuel W. Baker in his Wanderings in Ceylon, gives an account of coffee culture in that island, in which he says:

"Much attention is also required in the management of the cattle on an estate, for without a proper system, the amount of manure produced will be proportionately small They should be bedded every night, hock deep, with fresh litter, and the manure thus formed should be allowed to remain in the shed until it is between two and three feet deep It should then be heated on a Geoffrey Pit. This is the simplest and most perfect method of working up the weeds from an estate, and effectually destroying their seeds, at the same time they are converted into manure. A water tight platform is formed of stucco—say forty feet square—surrounded by a wall two feet high, so as to form a tank. Below this is a sunken cistern,—say eight feet square—into which the drainage would be conducted from the upper platform. In this cistern a force pump is fitted, and the cistern is half filled with a solution of saltpetre and sal ammoniac. A layer of weeds and rubbish is now laid upon the platform for a depth of three feet, surmounted by a layer of good dung from the cattle sheds of one foot thick. These layers are continued alternately in the proportion of three to one of weeds, until the mass is piled to a height of twenty feet, the last layer being good dung. Upon this mass the contents of the cistern are pumped and evenly distributed by means of a spreader.

This mixture promotes the most rapid decomposition of vegetable matter, and combining with the juices of the weeds and the salts of the dung, it drains evenly through the whole mass forming the most perfect compost. The surplus moisture, on reaching the bottom of the heap, drains from the slightly inclined platform into the receiving cistern, and is again pumped over the mass. This is the cheapest and best way of making manure upon an estate, the cattle sheds and pits being arranged in the different localities most suitable for reducing the labor of transport."

In the Southern States where manure is the great want for the cotton field, cannot some method similar to the above be devised to meet the necessities of the case.

Hired Labor on the Farm.—I have thought that many people are not aware of what it costs to pay a man for a year's labor. It is not merely the amount of money you give him, but the cost of the team and the necessary implements he must have to labor with, and the rent of the land that he tills. It is true the team and implements would be left, provided no accident befell them, but so would the money that they cost, and the interest remain if it had not been expended.

The following statement, will show the cost of a laborer in this vicinity, for one month.

Wages of one hand,	$25 00
Board of same,	10.00
Board of horses,	10.00
Interest on price of horses	2 50
Interest on price of implements,	2 50
Rent of land (1-12 of 40 acres),	16.66
Total expense per month,	$66 66
Expense for one year,	$799 92

Now, this statement does not include repairs from accidents, such as letting the team run away and breaking the wagon, or utensils of any kind. Again, some would cultivate more than forty acres, but it is designed to make an average of hands.—*Illinois Cor. Western Rural.*

SALTING HAY FOR STOCK.

MAN, in taking *his* food, can elect for himself, as may best suit his taste, in regard to salt, or any other condiment he may use. But it is not so with our farm stock. They can not send for salt, pepper or vinegar at will, but are dependent upon us to study and ascertain their wants and tastes, and then judiciously to supply them.

Our domestic animals have a keen sense of taste and smell. The pure soil is undoubtedly grateful to them. They sometimes eat it with avidity, and especially in the spring, after being shut out from it through the winter. Horses will sometimes eat half a pint, apparently with great relish, and we have no doubt with benefit to themselves. When grazing, they probably realize pleasure in the smell of the soil, as well as in the taste of the fresh grass.

All animals require salt in some form, even our poultry, which it will readily deprive of life if taken in an undissolved form. Mingled and dissolved in a mash of boiled potatoes and meal, it is highly beneficial to them.

How much salt each ox, cow and horse requires in a given time, cannot be definitely settled, because their wants are not just alike, scarcely in any respect. If half a dozen cows consume a certain quantity of salt in eight weeks in the summer, it would be a fair inference, we think, that one-fourth that quantity would be all that they would voluntarily eat in cold weather. Some excellent remarks on this subject we find in an old number of the *Country Gentleman*, as follows:—

> If salt is applied in too large quantities the animals fed upon it will certainly lose in condition. When an animal is forced by long abstinence, or by its food being too highly salted, to partake of salt in quantities beyond what the natural instinct of the animal would dictate, then it becomes poisonous or injurious, and deteriorates the health and condition of an animal by undue secretions from the liver, bowels, &c. These excessive secretions rob the animal of a portion of its food, and carry off what otherwise would be converted into fat, or flesh, or milk, &c.
>
> It thus becomes a matter of considerable *practical* importance to determine what is the quantity of salt which an animal would naturally and instinctively crave during the consumption of a ton of hay. Some have recommended as much as eight quarts of salt to each ton of hay; and very few have ever recommended any less a quantity than four quarts. Now it is our firm persuasion, from observations made by ourselves and others, that in the cold months no creature would crave or voluntarily eat as much as even two quarts of salt during the time of its consuming a ton of hay. If so, this quantity and all beyond it, would only be injurious to cattle or stock of any kind, when forced upon them with their food.
>
> This is one of the errors or dangers which it would be well to guard against. The other consists in the practice of getting in hay in a damp or partially cured state, under the supposition or expectation that a free application of salt will preserve it from heating, moulding, or otherwise spoiling. A quantity of salt which would be effectual for this purpose would make the hay injurious, or absolutely poisonous from excess of saline matter.

Several years ago the practice of salting hay was all but universal. It was recommended, not alone because it was supposed that the hay was better cured by its use, but because it enabled the farmer, as he supposed, to house hay imperfectly cured, or that which had got wet in the open air. This was carried so far, in some instances, that from eight to sixteen quarts of salt would be scattered over a single ton of hay. This practice afforded a constant temptation to get in hay in a slovenly and imperfect manner, and must have resulted injuriously in the second place by depreciating the health and value of the stock that was obliged to feed upon it.

We refer to the subject, at present, because in a "catching" hay season there are strong inducements to resort to this injurious practice, unless some special thought is given to the subject.

In judicious hands, a little salt, a quart or two to the ton, occasionally, may do no harm, but, possibly prove beneficial. The true way, however, is to cure the hay independently of salt, and administer the condiment by itself when it is needed.

If a continued diet of *salt junk* brings the scurvy upon the poor sailor, we cannot well see why a similar diet will not bring some dire disease upon stock that is compelled to feed upon it. The practice is a dangerous one, and ought to be resorted to with great care.

The English Agricultural College.—Dr. Gregory, the President of the Illinois Agricultural College, is in Europe examining the institutions there for agricultural education. His first letter, published in the *Western Rural*, is devoted mainly to the only agricultural college in England, that at Cirencester, which is a private institution. After alluding to an almost hopeless debt for extravagant buildings, which hangs like an incubus upon the enterprise and interferes materially with its success, by necessitating charges which virtually excludes all but the sons of rich men, he remarks:

> But after careful inspection, the institution does not seem to me the equal, either in work or results of the Michigan Agricultural College, and I believe that in less than two years the Illinois Industrial University will be greatly its superior in most points as it is already in many. Agricultural education has its finest field and its best material in the great basin of the Mississippi, and it must win its great victories there. Cirencester afforded me many capital hints, but little to copy.

BUDDING YOUNG TREES.

Will you or some of your correspondents please inform me through your valuable paper the time and mode of budding young trees, and oblige

A Farmer's Son.

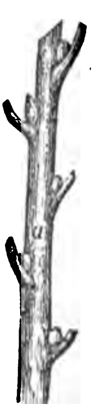
Kingston, N. H., Apr. 30, 1869.

Remarks.—We have delayed an answer to the above inquiry for the purpose of bringing the subject up more timely than it would have been in April or May. From the first to the twenty-fifth of August is the budding season in New England. Mr. Cole, a former editor of the Farmer, gives the following general rule as to the most favorable time for this operation: Apples, from August 15 to 25; quince, same as apples; cherries, Aug. 5 to 15; pears, Aug. 10 to 20; peaches, September 5 to 18; plums and apricots on plums, August 1 to 10. But much depends on the forwardness or backwardness of the season, on the growth of the tree as affected by wet or dry weather, and on locality. Consequently judgment must be exercised.

Mr. Thomas says, the essential requisites to success in budding are, *First*, a thrifty, rapidly growing stock, so that the bark will peel very freely. *Secondly*, a proper time; not so early that there will be too much cambium or mucilaginous cement between the bark and the wood for the adhesion of the bud; nor so late that the bark will not peel, nor the subsequent growth sufficiently cement the bud to the stock. *Thirdly*, buds sufficiently mature. *Fourthly*, a keen, flat knife for shaving off the bud, that it may lie close in contact upon the wood of the stock. *Fifthly*, the application of a ligature with moderate pressure, causing the bud to fit the stock closely.

The newly-set bud is united to the stock by the thick sap, or *cambium*, or mucilage between the bark and the old wood, but it should not grow until the next year; hence the importance of this substance being in the right state when the bud is inserted, and of its being put in at the right season. The stock should be growing well when the operation is performed, and it should continue to thrive ten or fifteen days afterwards. When we hit on the right time almost every bud will grow; but if too early, the buds may start the same season, and then the winter will kill them, or, in case of stone fruit, gum is liable to ooze out and start off the bud; and if done too late, the bark will not peel well, and there will not be sufficient growing weather to cause a union of the bud and stalk.

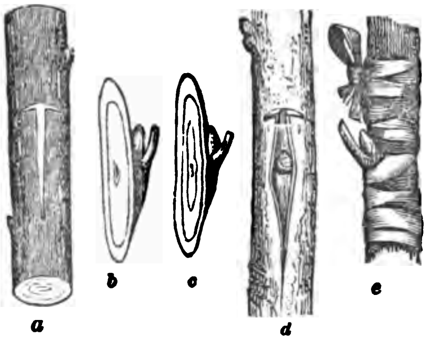
Now for the buds. These are obtained from shoots of the present year's growth. It is important that these buds, which may be called the seed or germ of the tree you wish to propagate, are well grown, or ripe. Cut thrifty, strong shoots, selecting those on which the terminal bud is well developed,—those from old trees of moderate growth are more firm than those of more rapid growth. As soon as the scion is cut trim off the leaves, leaving about one-third of an inch of the stem of the leaves on the scion, as is seen in the cut. Leaves exhale moisture very rapidly. It has been found that a sunflower plant only three feet high exhaled from its leaves in a dry day between one and two pints of water. Cut a a limb from a tree and throw it upon the ground with its leaves all on and it will quickly shrivel; but cut off the leaves and it will remain plump and fresh much longer. After cutting off the leaves, however, the scion should be wrapped in a damp cloth, or mat, or grass, or moss, or sawdust. And if not used at once, should be laid in a cool cellar or buried a foot deep in moist earth.



Stick of Buds.

Mr. Cole gives the following directions for performing the operation of budding, in his Fruit Book: "With a sharp budding knife, make a perpendicular slit, just through the bark, about an inch long, then a cross-cut, in the form of a letter T. It is well to make the cross-cut in a circular form, as in the figures *a*, *d*, that the band may cross the cut. With the ivory at the end of the knife-handle, raise the bark a little at each corner, below the cross-cut. If one has not a budding-knife, this may be done with a piece of sharpened hard wood or with the knife-blade. Lift up the bark, not force the instrument between the bark and wood, and disturb the *cambium* or new layer of soft matter.

Hold the but of the scion from you, and insert the knife about one-half an inch below the bud that is next the but-end, and with a gentle curve cut about to the depth of one-quarter the diameter of the scion—more in small, soft, or rather green scions, and less in large scions of firm or ripened wood—and bring out the knife about one-half an inch above the bud. Then put the bud under the bark, and slide it down the vertical slit till the bud is a little below the cross-cut; then, if any of the bark remain above the cross-cut; cut it off there, making a neat fit.



a The stock prepared for the bud. *b* The bud with the wood taken out. *c* The bud with the wood in *d* The stock with the bud inserted. *e* The stock with the bud tied in.

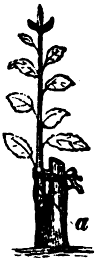
Wind the matting closely around the stock, so as to cover all the vertical and transverse cut, barely leaving the bud uncovered; tie with one bow-knot on the same side as the bud. Bud on any side excepting the south, where the sun may injure the bud in warm days in winter.

We think that the new beginner will do best not to attempt to remove the wood from the bud after cutting it from the scion, as there is danger of injuring the bud in doing so.

For bands, cotton wicking, woolen yarn, strips of cotton or woolen cloth are often used where but few stalks are budded. The soft bark of elm and other trees answers a good purpose. Many procure mats, such as are used in the city for packing furniture, wet and cut it into suitable lengths.

In ten or twenty days after budding, according to the vigor of the stock, the bud will have united with the stock, and if the band binds closely, so as to cut into the bark, it must be loosened and re-tied as before. If the bud has dried and shrivelled, the stock may be re-budded, if the bark peels. In about three weeks after budding, if the bud is well united to the stock, the band may be removed. But if it does not bind, it may remain. If it remains on during winter, the ice is more likely to gather around the band, and injure the bud. As the bark of the cherry curls, the band needs to remain on longer than on other stocks.

In the spring, from the bursting of buds to the leaves becoming half size, cut off the stock in which the bud is good, to within two or three inches of the bud, and when the bud has started, tie it to the stump, if it inclines off. Keep down the sprouts; and in July, cut off the stump even with the bud, as at the line *a*, and keep down both sprouts and suckers.

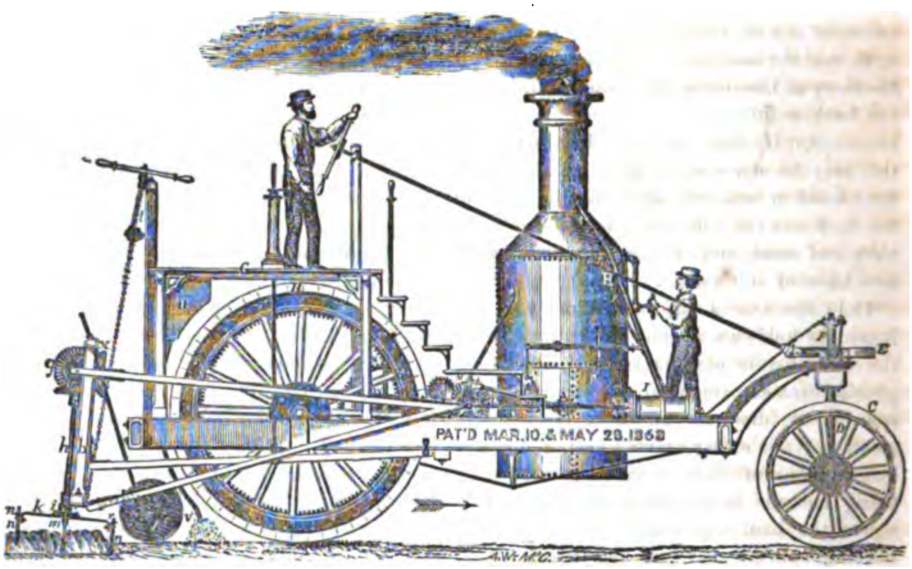


Growing Bud.

Manuring an Orchard.—I take a time in the fall, after the fruit has been gathered, or in early spring, when other work is not pressing, and strew some kind of grain in the grass beneath the trees; then, with team, draw a load of woods-mold to each tree, and turn in the hogs, or if I have none, allow my neighbors to turn theirs in and get the grain. The result is, the mold is thoroughly worked into the soil by the rooting of the swine.

Only a few need be dressed in this way each season; take one row, for instance, this year, and another the next. One day's work every year, given to the cultivation of an apple orchard of one hundred trees, in this way, will keep it in vigorous growth, and, of course very productive.—*Cor. Ohio Farmer.*

—In making or selecting a fork handle, have the heaviest part about one-third the distance from the tines to the end, as this is the point where the greatest strength is needed. Hoe handles should be just a trifle the largest a little above the center or at the point where the right hand comes. Second growth white ash is the best material for fork, rake and hoe handles.



CALIFORNIA STEAM PLOUGH, OR CULTIVATOR.

In the FARMER of July 3, we gave a brief notice of this implement, condensed from an account of it in a California paper. The inventor, Mr. P. H. Standish, who is now at the East negotiating for its manufacture on a large scale, called on us the other day and exhibited a model of part of the machinery, with drawings of the whole. He also gave us a history of its invention and of its operation in actual field work.

Perhaps it may be proper to remark that this "steam plough" is no plough at all, but a new contrivance for working the soil, operated by steam. The essential feature of this invention is not in the application of steam to ploughing, but in a novel device for stirring the soil. The principle of the invention was first tested by horse power, but as that was not sufficiently steady or forcible, steam was adopted.

The idea was at first suggested to the mind of Mr. Standish in the cultivation of a *rancho* or farm in California. From his observation of the imperfect manner in which the soil was pulverized by the ploughs and harrows in use on his farm, Mr. S. was lead to inquire whether something could not be devised which would prepare the seed bed in a more satisfactory manner. His ploughs ran about five or six inches deep, but they did little more than to "turn over" the soil. The harrows which followed pulverized only a small portion of the furrow slice, and seemed to consolidate rather than to loosen it, even as far as the teeth penetrated, leaving much of the soil inverted by the plough untouched. He wished to see the soil stirred and mixed as deeply as it was ploughed, and left light and loose.

After some thought he contrived an implement with which he was able to accomplish his purpose by horse power, but at the expense of too much time and labor for practical use. But, by way of experiment, he operated on small patches of a wheat field, previously ploughed and harrowed in the usual manner, selecting different kinds of soil, from sandy ridges to heavy bottoms. In all cases where the soil was thus thoroughly worked, the growth of straw and yield of grain was decidedly superior to other parts of the same field. Encouraged by the results of these experiments Mr. Standish embodied his idea in a steam machine of which the above illustration, which he kindly permitted us to copy, gives a side view. This machine which was built in

California, cuts a "furrow" or swath twelve feet wide, and has ploughed at least one thousand acres there, including land "baked to the brick-like consistency which is characteristic of most California soils in the height of the dry season."

On this twelve-foot machine, four sets of horizontal cutters, each working a circular space of three feet, are used,—only one of which is shown in the cut. These operate on the soil something as the knives in the Daniel's planer do on a board. And from the manner in which the cutting knives are forced through the soil, they do not drag or retard the forward motion of the machine; but, like the wings of the propeller of a boat, they rather crowd forward, and thereby prevent the tendency of the locomotive to settle down in soft soil, as it would do in drawing ploughs. Another obstacle to success in drawing gang ploughs by locomotive power is in the difficulty of starting both the machinery and the ploughs at once. In the California machine, the cutters can be put into operation before starting the machine forward at all, and then this forward motion can be graduated at pleasure, while the cutters are in full play, so that their forward stroke at each revolution may be half an inch or six inches, according to the state of soil or other circumstances.

From his experience with this twelve-foot machine, the inventor believes that those cutting from six to eight feet will be more convenient and more generally satisfactory. He estimates the cost of a six foot machine, capable of ploughing from one to two acres an hour, at $2500, and an eight-foot machine, with a ploughing capacity of one and a half to two acres an hour at $3500. A seed drill may be attached to the machine, or it may be used for operating a threshing machine, a grain mill, or for other purposes for which a stationary engine can be used.

The following description of the parts of the machine are copied from the California *Mining and Scientific Press*, of Feb. 27, 1869:—

A very strong frame of wood supports the machinery and is mounted upon two broad wheels, B, B. The front of the machine is supported by two guiding wheels, C, C, turning on an axle, which passes through a vertical standard, D, with a device at the point of its support on the axle, by which the wheels, C, C, are allowed to accommodate themselves to any irregularities of the surface. A gear wheel, E, is keyed to the top of the standard, D, and is turned to the right or left by a screw, F, working in its teeth, and operated from the platform, G. by a long rod and a wheel or crank attached. The engines, I, I, and boiler are supported upon the frame and suitably stayed, so as to be firm. An upright tubular boiler is preferred, in order to accommodate the machine to declivities, without danger by a change in the water level, as would be the case in a horizontal boiler, and also to economize room. A pair of horizontal engines, as shown, will give the requisite power, and will be much more steady in their action than would be possible if they were vertical. The ploughs or cutters are driven by the beveled wheel, U, on the sharp, K, also thrown in and out of gear by a clutch, as shown, and which, by engaging the wheel, V, turns the shaft, W, and through this the bevelled gear, X, at the other end, by which means the ploughs or cutters may be revolved. The cutters are mounted upon a supplementary frame, b, b, which has the arms extending forward to a point at the sides of the frame, where they are pivoted so as to be movable about an axis in a line with the engine shaft. The driving gear, x, is keyed to a horizontal shaft, and by means of the bevelled gears, g, g, drives the vertical shafts, h, h, which operates the cutters or ploughs. A disk, i, is keyed to the bottom of the cutter shaft or spindle, h, and has the arms, k, k, projecting from it, radiating from the centre. These arms are bent at right angles at the outer ends so as to form supports for the axes of the hubs, m, to which the cutters are attached. The cutters, n, n, pass vertically through the hubs, and when not fastened, can turn with them about their axes. For use in soil that contains but few stones, the cutters are retained in position by light supporters; *r*, *r*, which may be made of cast iron. The supporters are bolted to the arms, k, k, and each have a slot made in the projecting end which clasps the head of the cutter, and holds it rigidly in place under the ordinary strain of ploughing; but if the cutters strike a stone or other obstruction, one of the projecting lugs or sides will be broken off; so that the hub can revolve, the cutter being swept backwards until the obstruction is cleared, when a new supporter can be attached. As these castings cost but a few cents, and are easily replaced, they will serve as an efficient protection to the cutters. But if the soil be very stony or full of obstructions, the cutters may be kept in position by a stiff spring, which is attached to the arm, k, and curved around so as to clasp the cutter below the hub. This spring is sufficiently stiff to withstand the ordinary strain of ploughing, but will yield to any great obstruction, so as to allow the cutters to pass over it. The cutters may be either straight or curved, as may be the most efficient. They are elevated or depressed by various devices, one of which is shown at *t*, being a screw operated by a wheel from the platform, G. Any approved seed sower may be attached to the apparatus as shown at u, having distributing pipes, V, so that that the grain may be sown, and then ploughed and harrowed in. A roller, or a series of broad wheels, J, are attached to the frame, b, so as to run on the ground just in front of the cutters, thus regulating the depth of the cut, and preventing them from being thrown out by inequalities in the surface.

—Gen. Karney, of Keokuk, has the largest vineyard in Iowa. In two different enclosures, within two and a half miles of Keokuk, he has seventy-one acres set in grape vines with fine oak posts and wire to train them on. He has expended in all some $35,000 on his vineyard, and in enclosing the grounds, building tenant-houses, &c.

For the New England Farmer.

RHODE ISLAND FARMING.

The latter part of June is a favorable time to view any country to gain an opinion of its fertility and of the skill of its farmers.

It was my good fortune to pass through this Island, June 23, and I venture to make a few notes.

There are as excellent land and as intelligent farmers here as can be found in New England; and there are also unproductive acres and bungling management in some cases. The fields were showing a fair burden of grass and the clover was beginning to bend upon its succulent stalk; the pastures gave abundance of feed; the pears and peaches had begun to assume their comely shapes; but apples have blasted and dropped off from the thrifty old trees that should produce abundantly, and in some places the canker worm and caterpillar had stripped the branches of their verdure, leaving almost a wintry nakedness.

There was one other blur in the beauty of the vegetation, that spreads from shore to shore over this beautiful undulating Island, and that was, the ox-eye daisy, that in many fields almost obscured the emerald tints by the abundance of its glaring white blossoms. It may be a comely flower to the eye of the botanist, but to a farmer who sees beauty in utility, it is sad to see so worthles a sweed maturing its seeds in such unlimited abundance. I am told that it was not known here until within ten years, and now but few farms are free from it. As we look across the water to the main land, the sloping fields in Tiverton and Little Comptom are filled with it. How can it be subdued?

I called at the Ogden farm, and saw something of the system of soiling practiced there Twelve cows, three bulls, two mares and colts and some calves were at the barn, and the noon-day meal of clover and timothy was being eaten with the greatest apparent relish. The Jersey cows have improved in condition since February. The drained land is sown with grain that looks favorable for a large yield of fodder for soiling or a good crop at harvesting; and present indications are that the land will now yield a constant profit if dressed with the manures that constantly accumulate, and that Col. Waring has made a good investment, if this draining cost no more than one hundred dollars per acre.

Along the east shore the inhabitants believe they have the best land on the island, but the farmers in other sections are equally prejudiced in favor of their own localities.

There are gems of farms in all parts of the Island, but on the east side the seventy-five acre farm of Wm. M. Rogers, is not excelled in thorough culture and productiveness. Some of the management may have been more as a relaxation from business than a profitable investment, yet the results have been generally satisfactory. A field of twelve acres of grass has yielded three tons of hay per acre; and nine acres of oats have averaged eighty-three bushels per acre. On this pleasant June day there can be seen sixty sheep and lambs of the South Down and Cotswold breeds in a pasture of only nine acres, and at the same time such an abundance of orchard grass, a foot high, that one might infer that the grass is unpalatable, or that there is too little stock. Another nine acres keep eight cows, and show the same surplus of feed. The other side the wall from the cow pasture is a beautiful field of eight acres in corn, very even and thrifty, and probably the best piece on the Island, of its size. Several different kinds of fertilizers were used, each of which shows a good effect. Three acres of early potatoes, Sebec and Goodrich, will be sent to market in July. Several acres of Surprise oats, from excellent seed, procured from Geo. A. Deitz, Chambersburg, Pa., now two feet high, give promise of a large crop. Other lots are maturing heavy growths of grass for hay. The result is, that more farming is done here on seventy-five acres than on two hundred acres in some parts of the country.

Among purchased fertilizers, ashes are regarded with the most favor by Mr. Rogers. He finds that a dressing upon newly seeded grass land insures a good growth. He has this summer bought 1000 bushels of leached ashes at thirty cents per bushel, from Maine.

The crowning glory of this beautiful home is in the arrangement, the abundance and the thriftiness of shade trees, hedges, flowers, well trimmed turf and gravelled walks, on the two acres of ground immediately about the house. In the twelve years since Mr. Rogers commenced these rural embellishments, the trees have made a vigorous growth, and are now from twenty to thirty feet high, making a screen against the wind, and a home for innumerable birds that fill the air with their music. Here there is such a commingling of flowering shrubs, shade and fruit trees, that the beauty of art and cultivation combines with the seclusion of the natural grove. As we look from the east windows the view is quite extensive. Fields descend the gentle slope to the shore of the arm of the bay that divides the Island from the main land. This bay is of such width here as to give a good water view in connection with the ascending swell of land on the opposite side.

I have mentioned the number of cows, but would add that two of them are Jersey, and others are grades of the same blood. I saw the churning of butter from one week's milk of the half blood cow *Cherry*. It weighed eight pounds thirteen and one-half ounces. The full blood cow, *Maggie*, made twelve pounds of butter in a week last October, but has not been tested this spring. *Topsy*, three-fourths Jersey, made four pounds nine ounces butter in four days at one trial, and is now believed to yield ten pounds per week. *Dolly* a two-year old heifer, now in milk, bids fair to surpass the others as a dairy cow, as her milk is yellow and rich in cream. Another cow, *Lily*, is from one of R. L. Maitland's imported cows.

I speak of the yield of these various cows with much pleasure, believing the statements to be very accurate, as the trials were made to satisfy the owner as to the real value of the cows, and not to assist in the sale of young Jersey stock at high prices.

Mr. Rogers has raised some very fine young cows, and he has two yearling heifers, one full blood one half blood, that are large for their age, and the indications are that the Jerseys raised with the best of care here, are much larger than the imported animals and better every way. I saw a heifer calf, half Jersey half Guernsey, in the yard of Burton Lawton, seven weeks old, very large, beautiful style, with a remarkable udder for a calf.

In the pasture of Thomas R. Hazard, I saw some polled cows which were fine animals.

Mr. Walker, a market gardener, has those thousands of cabbage plants that he wintered in cold frames, now rapidly approaching maturity,—a large field of thrifty plants, covering the ground well.

Haying has not yet commenced on the Island.

Among so many model farms and beautiful residences there must be many things worthy of notice and study, as wealth is here combined with natural beauty. Z E. JAMESON.

Irasburg, Vt., June 27, 1869.

For the New England Farmer.

MANAGEMENT AND APPLICATION OF BARN MANURE.

Importance of Manure—Farming on the Hudson River—Impoverished Soils—Buying City Manure—Manure from Fattening Sheep—Bedding for the Sheep—Manure under Cover—Form of Yards—Liquid Manure Cistern—Watering to avoid Fire-fang—Application of Manure—Gang Plough for Covering—Old Method of Applying—Effects and Profit of Manure—Increased product of a hundred-acre Farm.

MESSRS. EDITORS:—I certainly owe my friend at your office who so kindly entertained me when there last spring, an apology for not fulfilling sooner my promise to furnish an article for your columns; still as I have been very busy, and as I was not limited as to time, I hope that the present communication will be acceptable. As I understand it, the proposed subject was *Barnyard Manure.*

To begin, I will say that if any one branch of farming, more than another, has had my solicitude, it has been how shall I make more and better manure, and how shall I apply it to the best advantage? I recollect the first speech I ever heard at an Agricultural Fair, and what was said on this subject. The speaker told us there were three things requisite in good farming. He said the first thing was manure; the second was manure; and the third was manure. Although it caused a great laugh amongst his audience, I can assure you it made an impression on me which I have never forgotten.

I will say then, in the first place, that the staple crop of our section of country bordering on the North or Hudson River is hay, and as prices generally have been remunerative, it has been the practice with our farmers to sell not only all the hay they possibly could, but also all the straw, as straw sometimes—as this year—brings as much or more than hay, and keep but very little stock. I, too, started on the same track, but soon found that my land, although naturally poor then, was becoming poorer still, under such treatment, so I at once resolved to try in some way to improve it.

I commenced buying manure in the city of Albany, which is eight miles from my farm, hauling it home in winter and mixing it with muck from the swamp. I let it lay in piles through the summer, occasionally shovelling it over, and then applied it in the fall to the land for winter grain. As this was attended with considerable labor and expense, I concluded to buy and feed some sheep in winter. I found in the spring that I had a nice pile of manure, and concluded at once to follow it out on that line. Since that time I have not missed a year that I have not fed from two to nine hundred sheep. Although I have found more than one year, when cost of sheep, feed, and expenses were figured up, that I had only the manure pile left as profits, still I concluded that even that was better than to sell about all my hay and straw, and have nothing to return to the land save a little heap of manure from the horse stable door, and another from the cow stable, and then sit down and complain—as I have often heard people do—of having bad luck in not getting good crops.

I will now proceed to tell you how I make my manure, and a good pile of it too, as I am satisfied I had five hundred loads this year. In the first place, before harvest, if possible, we haul from the saw-mill sawdust enough to cover all the floors above, and the sheds below, about four inches thick. That is left to dry until after the leaves drop in the fall. Then the sawdust is covered with a coating of leaves about three inches thick. The outside yards also get a bed of leaves. When winter sets in the sheep are put upon this bedding, which lasts from two or three weeks, by stirring it a few times, when bedding of straw or hay must be added twice a week, all winter.

In the spring, or as soon as the sheep are sold, we first remove all the manure from the floors, and generally use that for corn or potatoes. Then we pile the balance, or as much of it as we conveniently can, under the sheds, and the remainder is piled outside. I prefer always to have all the manure under cover, as

I can always see a difference in the crops in favor of the manure that has been thus cared for. I will say, however, that manure kept under cover, must be wet frequently to ensure decomposition. For this purpose, as well as for saving the liquids from the manure, I have my outside yard, so arranged that the drainage from them all settles to one point, and there I have a liquid manure cistern, which receives it, and from which it can be taken when needed to apply to the manures under cover to decompose and enrich them. It must be distinctly understood that these under-cover piles can, under no circumstances, be neglected, as they would surely become dry and fire-fanged, as we call it; by which at least one-half of their value is lost. With these directions promptly carried out, no repiling is necessary, and the manure will be found by the first of September in a first rate condition for the land. Outside piles will generally decompose by the rain that falls upon them; still sometimes, when not much rain falls, they must be wet or handled over to keep them in good shape.

Next comes the application of the manure. And here I will say that in all my experiments, I find that two loads applied on or near the surface, after ploughing and harrowing or cultivating or gang ploughing,—which last is my mode,—is worth and will give as much benefit as at least three loads ploughed under, especially if it is an old sod. When I have a clover sod and very coarse manure, I do sometimes, for corn or potatoes, plough it under, but not very deep. Then by ploughing a little deeper the next spring it brings the manure just in the place where it is needed for the wheat, barley or oat crop.

I am surprised when I see, as I do in going over the country, and as I did in my visit to Boston, last spring, how many of our farmers are holding on to the old mode of applying manure by dumping it from carts or wagons on the field in small heaps, where it lies sometimes for two or three weeks [you might have said months—Ed. Farmer.] and then send a boy or a hired man to spread it on the land, when the consequence is that on the spots where the heaps laid the grain will lodge and spoil, while on the outskirts it will be so poor that it will need a drum and fife to get it together. I almost universally find that where this mode is practiced, the proprietor takes no agricultural paper, and will almost guarantee to every sensible farmer that if he will subscribe for the New England Farmer, or some other good agricultural paper, and try my mode of applying manure for one year, he will never abandon it.

This last mode of applying manure used to be the exclusive mode in this section of country, but ten years' experience and observation of a different mode has brought farmers around, and I do not know of an individual in my section who does not now apply it on my plan, except as before stated, or on light dry sand.

My rule for applying manure is simply this: After the field has been ploughed and dragged down, the manure is loaded on wagons and taken direct to the field and spread on the land right from the wagons. In ploughing, each land is laid off about twenty-one feet wide. By driving the load in the middle of the land, it can easily be spread from furrow to furrow, and the men being on the wagon can at once see when they get it all even. With a new hand I always go out myself with one load, and see that he starts right; after which there is generally no farther trouble.

After the manure is applied to the whole field we put on the gang plough. And here allow me to say, that, of all the implements I have ever used for putting manure on the land in its proper place, according to my idea, this suits me the best. It has a wooden frame, with three small ploughs attached. It has handles like a plough; also, two wheels, one on each end, which can be lowered or raised by means of bolts and screws, and guaged to run one, two, three or four inches deep. It puts the manure under as effectually as a plough. I generally set it to run about two inches deep, which is about my idea of the proper depth to cover manure.

Now for the effects. A little experiment just comes to my mind, which although it was published several years ago, it may not be amiss to give again at this time. It was simply this: I purchased from a neighbor about forty loads of manure and applied it to one portion of a field, the whole of which was to be sowed to rye; the other portion of the field had no manure. In other respects the treatment of the whole field was precisely alike. Each portion of the field required the same amount of rye for seed. The manure cost me fifty cents per load. When the crop was harvested and sold, the manured part paid me $2.50 per load, over the unmanured, the first year; the second year it made $2.00 per load more, and the third year $1.50; making $6.00 per load, besides effecting a permanent improvement in the land.

Allow me also to say that instead of one small barn holding the products of my land, as formerly, I have been compelled, from year to year, to add to my buildings—having this summer added another barn 28 by 48 feet until now I have capacity or building room enough to store at least from 150 to to 200 tons of hay and grain, and from present appearances I shall probably nearly fill them all this year, and that from just about 100 acres of cleared land, less about twenty-five acres in corn, potatoes, buckwheat and pasture. Jurian Winne.

Bethlehem Centre, N. Y., July 1, 1869.

Warts on Cows' Teats may be removed, says the *American Rural*, by painting them with Tincture of Iodine.

THE HUMOR OF FARMING.

There is some humor connected with farming. The newspapers inform me that I own a model farm, and that I derive a large profit from farming. So I do. But it is profit in the higher faculties, and not in the pocket. A gentleman from Baltimore wrote to me as follows:—

"Dear Sir:—I see by the papers that your farm netted you last year thirty-six thousand dollars. Will you tell me what crops you raise, and what is your method? I have a farm of two hundred acres near this city, and I have never yet been able to make it pay expenses. Will you tell me how I can make it as profitable as yours?"

I replied (though I never sent it), "Dear Sir: Don't change a particle. Keep on just as you have done, and your farm and mine will be as like as two peas. Your farm is already just as profitable as mine. Truly yours."

It is a matter of surprise how much money may be buried in a small piece of ground. Indeed, many gentlemen *are* surprised. Simple as a smiling piece of ground looks, as it lies before your contemplative eyes, it will prove a match for your cunning. To drain it (and every piece of ground, wet or dry, should be underlaid with drain-tile), to deepen it (and no farm except mere sand is well ploughed that has not been mellowed eighteen inches deep), to gather off the stones, to dig out boulders, and blast the rocks, to lay boundary walls to enrich the whole with abundance of manure, but above all, to do a goodly amount of grading, will prevent any man from hoarding his money.

Then one must take account of work done twice and thrice over, because you did not know how to do it right the first time. Drains two feet deep, that must go down four feet; trees set where you don't want them, and moved to where you don't want them either, and moved again; fancy crops, by which I mean crops from seeds for which you pay extravagant prices, whose yield is in an inverse ratio to the descriptions upon which you bought; these, together with experimental manure, and new machines for saving labor, and newer machines, and machines still newer, will give one an agreeable relaxation if he is fond of spending his money.

But if a man is conceited, and desires to be brought to a realizing sense of his proper place in creation, I advise him to attempt grading. Grading is the art of recreating the world. It makes valleys where nature made hills. It makes hills where the ages have made valleys. It changes a northern slope into a southern one. It smooths off the undulating face of grounds, as a flat-iron takes out the wrinkles and creases of a sheet or table-cloth. One has no idea how thoroughly the world was made until he undertakes to remake it. I never admired hills as much as since I made a small one. I got it up about four feet high and stopped! It was a good lesson. I now look with an increased respect upon the neigboring hills. I had before no conception of what it cost to make them.—*Henry Ward Beecher.*

How to make a Cold-Chisel.—Farmers and gardeners frequently need a good cold chisel for light work, such as cutting off rivets, nails, or pieces of hoop iron. A piece of bar-steel, and the forging it into proper shape, will cost from fifty cents to one dollar. Those persons who want the use of a cold-chisel only once a week or so, do not always have the money to spare for a tool that they have but little use for. Therefore to get a cheap chisel, that will subserve all the purposes required, make use of a large flat file that has been worn out. Break off one end, so that a piece will be left about eight inches long; heat it in a charcoal fire to near redness, and let it cool gradually. Then the steel will be soft. Now grind one end square and true for the head end, and form the cutting edge by grinding at the other end. Thrust the cutting end in a charcoal fire, in the cook stove, until one inch is red hot. Now cool half an inch of the edge in cold water, which will render the edge quite too hard. Watch the color of the steel as the different shades appear near and at the cutting edge, and as soon as you see a light straw-color on the surface, plunge the chisel into cold water. By this means you will get a cold-chisel sufficiently hard on the edge to cut iron, and so soft and tough in the part above the edge that it will bend rather than break.—*Exchange.*

EXTRACTS AND REPLIES.

DWARF APPLE TREES.—CROPS IN MAINE.

How about the Dwarf Apple tree? Are they the best and quickest way to get an orchard, and are they a long lived and hardy tree, and will they grow on sandy land, &c.?

We have two starch mills here and another is now building. Our potato crop brings more money into town than our stock. Our crops look promising. Grass is looking well. Corn is small, but it is going ahead now. There are many kinds of mowers in town, and every farmer has the best—so they say. We are selling our wool for forty to forty-two cents a pound Farmers met with a great loss on sheep, last winter. Our cows never did better than this season. God bless our country and everybody in it. J. G.

South Andover, Me., July 4, 1869.

Remarks.—In relation to dwarf apple trees, our own experience has been such that we cannot recommend their general cultivation, though a few trees in the garden may be well enough. Those that we tried were imported with dwarf pear trees.

In his "American Fruit Culturist," Mr. Thomas says, "for summer and autumn sorts, dwarf apples are valuable in affording a supply to families. They begin to bear in two or three years from setting out, and at five or six years, if well cultivated, will afford a bushel or so to each tree. A portion of a garden as large as the tenth of an acre, may be planted with forty or fifty trees, without crowding. All the different varieties of the apple may be made Dwarfs by working on the Paradise or Doucain stock—the former are smaller and bear soonest; the latter are larger and ultimately afford the heaviest crops. Among the handsomest growers as dwarfs, are Red Astrachan, Jersey Sweet, Porter, Baldwin, Dyer, Summer Rose, Benoni, and Bough."

"Sandy land" is rather an indefinite term. Most of our land is more or less sandy. A hungry light sand is not good for apple trees, neither is a heavy clay. Potatoes and corn furnish about as good an analysis of soils for apple trees as any of our chemists can. Wherever they grow well we expect that apple trees will do the same.

USES OF SORREL.

It is so seldom that editors ask advice of their readers—and I suppose it is not often they need it—that I willingly take an hour, whilst my hay is drying, to answer your three or four questions about sorrel. We should not question but what God's wisdom can be discerned in the creation of sorrel. In my boyhood I was told that farmers when they could not get hay seed, would sow sorrel seed, in preference to letting their land lay barren. I remember reading, in years gone by, in some agricultural paper, an article in which the writer stated that he ground up a large lot of sorrel seed for his swine, and found it almost equal to other grain.

Now, for my own experience. Some years since, having a piece of land covered with sorrel, I told my hired man one cloudy day to mow the sorrel and put it into cocks. It was done; and it remained there till planting time the next year. I hardly knew what to do with it; but being about to plant a field of potatoes, I took the sorrel, and put the same amount in bulk into the hill that I should of manure, and planted the potatoes. The potatoes and sorrel came up about the same time. The sorrel, however, came so thick that but a single leaf could grow from a seed, and the leaves were so crowded that they grew very slowly. When the potatoes were about three inches high, the sorrel was but about one inch high. I ploughed between the rows,—as I do for all hoed crops,—running the land side close to the row, leaving a ridge of fine mould near the plant. I then with the hoe covered the sorrel, and that was the last seen of it. The labor was no more than with other manure, and the crop was equally as good.

Robert Mansfield.

Wellesley, Mass., July 12, 1869.

Remarks.—We are glad to look once more on the firm, round penmanship of our old friend. We were almost afraid he had forgotten the New England Farmer. Possessing the happy faculty of looking on the bright side of things generally, and of farming in particular, his communications are always acceptable and cheering. Even sorrel is not all dark, nor all sour to him. The seed is good for fattening pigs, and the hay for making potatoes grow! Surely nothing is made in vain. We are so pleased with his prompt answers to our inquiries, though right in hay time, that we can afford to smile at the sly joke he perpetrates at our expense, by saying that editors seldom ask or need the advice of their readers. If we had printed a single paper during the past ten years without asking their advice, or without showing very plainly that we needed it, we might have taken it all in sober earnest. But when our own often repeated appeals for the advice of our readers are backed by the much used formula of our correspondents—"Can you or *some of the readers of the* Farmer inform me," &c.,—we cannot think there was any need that friend Mansfield should put Josh Billing's "*Nota bene*, this is sarcasm," at the close of his first sentence. But, "the wounded bird flutters!" Not at all; our correspondent must have meant somebody else.

FROG-SPITTLE INSECTS.

In connection with an article written by E. K. Baxter, of Sharon, Vt., and published in the Farmer of May 22, (Monthly, page 329), we requested our correspondent, I. B. Hartwell, Esq., of Wilkinsonville, Mass., to reply more fully than we did to Mr. Baxter's inquiries. Mr. Hartwell kindly responds by saying that not being able to add any valuable information himself, he called the attention of Prof. B. D. Walsh, editor of the *American Entomologist*, to Mr. Baxter's article. In that valuable magazine for July, we find the following reply:—

The frog-spittle insects belong to the genus *Aphrophora* in the *Cercopis* Family of the Order of the Whole-winged Bugs (*Homoptera.*) We have ourselves found the *Aphrophora quadrangularis* of Say very abundant in the larva, and occasionally in the perfect winged state, in the well known "frog-spittle" upon grass and various weeds growing among grass. Usually but a single larva is found in a single mass of "frog-spittle," and of course this so-called "frog-spittle" is nothing but the sap pumped out of the infested plant and discharged from the body of the larva. The perfect insect, which is fully one-quarter of an inch long, is of a pale dull brown color with oblique bands of dark brown; but the larva is of a shining black color with pale yellow markings, so as to be very unlike the winged fly. There are several other species of Frog-spittle insects, one of which inhabits in great numbers the twigs of the Red Osier Dogwood. Mr. E. K. Baxter, of Sharon, Vt., writes, as you point out, in the New England Farmer of May 22, 1869, that some species or other belonging to this genus of insects "has done much damage in Vermont to the hay crop during the past two or three years," and that it is believed by some that in consequence of its depredations the quantity of hay grown on some fields was one-third less, to say nothing of the depreciation in the quality of the crop." This is perfectly possible, provided that the insects were sufficiently abundant; but we ourselves have never met with them in any such exuberant numbers.—*American Entomologist.*

The editor of the *Mirror and Farmer* speaks of a field on which the frog-spittle or "snake foam" was so abundant that in spots the ground seemed white with it. We understand that some farmers ascribe the unusual fatality among sheep last winter to the unusual abundance of this froth or foam on the grass last season. But as we saw more or less of it on grass many years ago, we can hardly believe it is poisonous to stock. Dr. Hartwell closes his note to us with the remark, "I intend to observe more carefully these spumiferous insects, which have already made their appearance this summer, and if the investigation results in any thing note-worthy, I will communicate it to the FARMER."

A NEGLECTED FARM IMPROVED.

I see by the date on my label that the time for which I paid has about expired, and thinking that I can't well get along without your paper, I enclose another payment, and would say that I think I get well paid for my outlay in reading the different opinions of old farmers in regard to their method and way of farming, management of trees, &c.

Now a word for myself. After farming it for several years in New Hampshire, the Granite State, two years ago last March, I moved to the State of Vermont, where I had been looking out for a good chance for several years. At last I got my eye on a place that I thought I could get a living on, at any rate. The farm was sold at auction, and a friend of mine advanced the money. The place was formerly known as the Stephen Tryon farm. It lies about two miles southwest of White River Junction. There were a little short of 200 acres, on which were some 1200 good grafted apple trees, a lot of selected pear trees, plums of several kinds, grapes, gooseberries, blackberries, &c. The trees, as well as the farm generally, had been much neglected for several years. The fences, buildings, and everything else showed the effects of this neglect. The amount of hay in the barns at the time of the auction did not add much to the price bid for the place.

Well, after getting possession, the first thing I did was to make a division of mowing and pasturing, so that I could have a place to put horses, cattle and sheep. This was no small job. I then ploughed, and planted corn and sowed other kinds of grain, as much as I thought I could manage; and the 10th of June I commenced on the apple and pear trees, giving them a fair trimming, as I thought. In the fall of that year I harvested fifty bushel of pears and about 200 bushel of apples. Last year we sold $1000 worth of apples. A year ago last spring we put on a two-story front to the house, 26x30 feet, and last fall we did not have room at the barns, and this last spring we altered over some of the barns and put on new addition enough to hold some fifteen to twenty tons more,—and think we shall be short for room this fall. We have now some thirty-five acres that are planted and sowed. In regard to time for cutting grass, my rule is, if the weather is right, to cut clover as soon as it gets well headed out, and herdsgrass in first bloom. I commenced haying this year the 24th of June. When it has been good hay weather I have worked at haying; when doubtful, I put the boys into the corn field. By so doing I get my haying along without any of it being wet.

But fearing that I am taking too much room, I leave the rest of my thoughts for another time, and not use them all at once. AMOS FRENCH.

Hartford, Vt., July 12, 1869.

REMARKS.—Thank you for so many of your thoughts; but don't keep the rest of them till they stagnate. Our thoughts have been compared to the water in a well, which is all the better for drawing up a bucketful occasionally. There are so many neglected farms in New England, that we like to publish accounts of the improvement of any one of them. Instead of taking too much room with the details of your operations, we should have been very glad if you had taken more. You speak of the empty state of the barns at the time of the auction sale of the farm, and also of the increased products which have compelled you to "pull down your barns and build greater." We think many will inquire, How did you set that ball in motion? How did you get the manure to start with? And others questions will arise in the minds of the thousands who will read your description of your farm, and it is well for them, and perhaps for yourself, that you did "not use all your thoughts at once."

WHITE WASH FOR BARNS AND SHEDS.

I would like the best known receipt for white wash for outside work of barns and sheds, &c.

North Chester, Vt., July 6, 1869. J. C. CARR.

REMARKS.—There are many ways of preparing white wash. The *Scientific American* says, "take a clean water-tight barrel or other suitable cask, and put into it half a bushel of lime. Slake it by pouring water over it, boiling hot, and in sufficient quantity to cover it five inches deep, and stir it briskly till thoroughly slaked. When the lime has been slaked, dissolve it in water, and add two pounds of sulphate of zinc, and one of common salt. These will cause the wash to harden, and prevent its cracking, which gives an unseemly appearance to the work. If desirable, a beautiful cream color may be communicated to the above wash, by adding three pounds of yellow ochre, or a good pearl or lead color, by the addition of lamp, or ivory black. For fawn color, add four pounds of umber—Turkish or American—the latter is the cheaper—one pound of Indian red, and one pound of common lampblack. When applied to the outside of out houses and to fences, it is rendered more durable by adding sweet milk, or some mucilage from flax-seed; about a pint to the gallon will suffice."

The following has been highly commended for an incombustible and durable wash for roofs and outside walls of buildings, "take a sufficient quantity of good stone lime, and slake it carefully in a close box, or mortar bed, to prevent the escape of steam, and after slaking, pass it through a sieve. To every *six quarts of this lime*, add *one quart of rock or Turk's Island salt*, and *one gallon of water*. The mixture should be boiled and skimmed clean. To every five gallons of this, add by slow degrees, *three-fourths of a pound of potash*, and *four quarts of fine sand*. Coloring matter may be added. Apply it with a common paint brush."

PRICES OF FARM PRODUCE TOO HIGH.

We notice in your cattle report of this week, that you take a long look back at the cattle market, viz. thirty-four years and find the price very low as compared with the present. We think it would be hardly necessary to go back to 1835 to find a year when prices were nearly or quite as low on beef and pork as then. We refer to August and September, 1862, when *good* grass fed cows and steers could be bought at three to four cents per lb. dressed weight, and fat hogs at three to three and one-half cents per lb. live weight in this market. Add one-half cent per lb. for transportation to Brighton, and I think you will find the market of 1835 equalled in cheapness at a comparatively recent date. Now if these things are so; and as corn is only about twenty-five per cent. higher it was in 1862 and beef and pork *more* than 300 per cent. higher, where is the justice of the universal cry of the producer that "we don't make anything?"

Furthermore we wish to inquire is there any *real* necessity for the present high prices of meat. If there is no necessity why continue it longer? If there is, what and where is it, and when and where is it to end?

To those producers who grumble because they cannot get the eighteen or twenty cents for their beef and pork, fifty to sixty cents for their butter, $1.00 for their wool, &c., which they obtained during the war, we refer to the prices of 1862 and the ten years previous, when the country was, as now, in a state of peace. We would also ask them to show us five consecutive years in the history of the United States or *any other* nation when prices for farm produce have ruled so high in comparison with labor and manufactured goods as the five years just past. We think brighter days are coming for those consumers who LIVE IN HOPE.

Montpelier, Vt., July 16, 1869.

REMARKS.—If "Live in Hope"—who has neglected to give his address, and is therefore hardly entitled to a hearing—will accept as a gift a calf of a week old, and nurse and feed it up through the months and years necessary to make such beef as he demands of his butcher, we think he will put himself in the way of answering his own questions. Does he believe that the three-cents-a-pound beef and pork of 1862, or 1834, paid the farmer a decent living price for his labor? We admit that he is about correct in his quotations of prices in 1862, and our reporter probably referred to those of 1834, simply in connection with the importation of Mr. Clay's herd at that time. It is true that prices of meat and other farm produce have been ruinously low at periods much less remote. These unremunerative prices have driven great numbers of farmers' sons from the ranks of the producers to those of "consumers who live in hope." And we venture to guess that "Live in Hope" himself is one of those who have abandoned the farm for a more lucrative employment; that he is one of those who finding farming to be an unprofitable and laborious business, quit in disgust, believing that brighter days would dawn on him in another pursuit.

TREATMENT OF KICKING COWS.

I have noticed in the FARMER several methods of treatment for kicking cows, and have in times past tried all of them, except that of seizing the cow's leg and holding it by main strength—this method I should prefer to leave with the originator. I think Mr. Foster's manner the best, viz: kind treatment; but sometimes we find an animal so stubborn as not to be subdued by kindness, and it is not convenient to spare her for beef.

In such a case I would recommend the following, which I do not recollect seeing in print. Take a small strap, long enough for the purpose, bend the four legs so as to bring the foot up to the body, put the strap round the arm and small of the leg near the hoof crossing between so as not to slip off over the knee, and buckle. In this condition it is an impossibility for a cow to kick; they may come to the knee a few times but are soon quiet.

In confining the hind legs either singly or together, there is danger of spoiling the animal. A spirited cow will struggle and sometimes is thrown, when the hip, stifle or some other part is injured, perhaps for life.

RAISING CALVES.

I see that Mr. C. F. Lincoln and Mr. W. H. Jordan disagree somewhat as to the best manner of raising calves. Now, the common practice in this vicinity is rather between the two methods, viz: the calf remains with the cow about four days or until the milk becomes good, when he is easily learned to drink, and after a short time is put upon skim milk, to which is sometimes added a little scalded meal, which is continued until fall—perhaps through the season. Usually they are turned out to grass. I see Mr. J. objects to calves going to grass. But grass seems to be the most natural. I let them run with the cows; others pasture them separate.

We can show very good stock raised in this manner; I think equal to any, taking trouble and cost into consideration. Mr. J. says his neighbor has a steer one year old which girts "five feet and one inch,"—a grade Durham. If he will come this way we will show him yearlings which will girt from five to six feet, raised in our way, and nothing but *native* stock at that. We will also show him two year-old native heifers, raised in the same way, that girt five feet and a half or more, and will make a pound of butter each per day.

NATIVE STOCK.

Now, Messrs. Editors, where can we find a breed of cattle possessing the combined qualities required by the farmers of our hills more fully than the natives, when bred a series of years with the same care as are the *fancy* breeds? We want working, beef and dairy stock combined. Almost any breed will work, but some require a third more keeping than others do. The Durhams are large for beef, but they also take all the richest pastures, the best of hay, and the *shakings* of the meal bag. Who ever heard of a big butter cow among the Durhams, according to cost. The Ayrshires are great for milk but not for butter; besides they are too small for beef, but are rather easily kept. The new fancy breeds—Alderneys and Jerseys—probably give the richest milk, but I have information from those who have them that they are very small milkers, which spoils them for cheese dairies; besides they are small and ill-looking animals.

Now where shall we find the flowing pail of milk for cheese, or for two pounds of butter each per day, combined with a handsome form, and from six to twelve hundred pounds of beef, in such perfection as in well bred native stock, taking into consideration the cost of breed, keeping, &c.

Montpelier, Vt., July 10, 1869. A. D. ARMS.

WARTS ON HORSES.

I have a horse with warts on his face, and one as large as a good sized hen's egg betweeen his fore legs. As he is a valuable animal, I am very desirous to ascertain a remedy for taking them off, or driving them away. BYRON W. POLLARD.

New Haven, Vt., July 1, 1869.

REMARKS.—Warts on animals may usually be destroyed in two ways: first by cording them. For a small, young wart, tie a horse hair about it, close to its roots, and tighten it two or three times a week. For larger ones use a thread of strong silk, wax it well, tie about and tighten as with the hair.

Another mode, and one which we never knew to fail, is to pare the end of the wart with a very sharp knife, until there is a slight appearance of blood, then touch it with a pencil of *lunar caustic.* If the caustic is not at hand, a little *nitric acid* is as well. Apply the acid by tying a bit of rag to a stick about the size of a quill, and with that touch the end of the wart, every day, until a change in it is observed. The acid must not touch any place but the end of the wart.

BEST WHEAT FOR SOUTHERN NEW ENGLAND.

I would like to inquire of some of your readers who may be posted, as to the best wheat to be raised—fall or spring; also, the best variety for cultivation, in this latitude, twenty-five miles south of Boston, and on light, but good corn soil.

Franklin, Mass., 1869. F.

Remarks.—We hope some wheat grower in the latitude of our correspondent will favor him and other readers of the Farmer with a reply. In the Massachusetts Transactions for 1867–8, are the statements of several farmers, who took premiums on crops of wheat. Mr. Kilburn of Worcester county raised 2040 pounds of the blue-stem winter wheat, sowed August 27. He remarked that he had sowed that variety yearly for twenty years, and it had not deteriorated.

FEED FOR A WORKING HORSE.

What is the best feed for a horse that is worked on a farm to a greater or less extent, and is also driven four miles every day, and some days ten or fifteen? Have been feeding meal twice per day and oats at noon. How many quarts of oats equal a quart of meal? What is the relative proportion between the two? Philæter.

Melrose, Mass., June 28, 1869.

Remarks.—The amount of food to be given to a horse each day, should depend upon two things; the size of the horse, and the kind and amount of work required of him.

A horse worked all day in the usual employments of the farm, changing from one work to another, will not shrink so much, nor require so much food, as a horse on the road travelling at the rate of eight miles per hour, for two hours.

For a roadster we should prefer oats, and even for heavy teaming, should rather have a mixture of oats and corn meal, than an equivalent in meal alone.

Among farmers and livery stable people, oats are usually considered to contain about one-half the nutritive power that corn meal has. According to the analysis which we have seen, however, there is not so much difference in their nutritive properties. In the items of starch, gum and sugar, the oat has three-fourths as much as the corn meal.

No other grain will impart so much spirit to the horse as oats. They seem admirably adapted to his nature, so that he will gain spirit, courage and strength from them when all other feed seems to fail.

As in the case of roots fed to milch cows, it is evident that their value does not lie entirely in the amount of the merely nutritive properties which they possess and impart, but in assisting in a more perfect digestion of other food taken, or sustaining the body by some other process, which is as yet to us mysterious or unknown.

Horses are quite often *over-fed.* Six quarts of *crushed* oats, with about *fifteen* pounds of good hay, cut, moistened and mingled with the oats, will sustain a horse, weighing between nine and ten hundred pounds, in any ordinary labor, if he is used judiciously.

ROTATION OF CROPS.

The close observer of nature will see by the change of the growth of the forest the true system for the cultivation of plants for the sustenance of man and of our farm stock. When growths of hard wood are removed they are succeeded by evergreens or something quite different from the first growths, for the harder woods have exhausted the potash and other minerals that are required to build up the structure of the perfect tree. Consequently the next growth will be the pine or other softer varieties which can subsist on the minerals that were left in the soil by the first growth. This second growth by the annual shedding of its foliage and perhaps by some not well understood effects on the soil, will restore it to its original fertility, when hard wood trees will again grow.

Here is an important lesson for the farmer. All crops should be succeeded by those of an opposite character—a *white* by a *green*, or the reverse—with the exception of the grasses. By that means the minerals will be more equally balanced in the soil. From a long experience and careful observation, I have come to the conclusion that this system must be adopted, in connection with the manufacture and saving of manures, if we would cover our New England hill sides and valleys with profitable and paying crops.

These remarks apply to all or nearly all crops with the exception of the onion patch. And I wish to impress the fact of the importance of a judicious rotation on the minds of my brother farmers. If your plans are such that you cannot adopt the system in full in one season, begin it at once, and as you work into it, you will find that you will make full as good crops with one-half the manure and leave the soil in better condition.

I could mention numerous experiments that have come under my observation in support of my theory, as I have reduced it to practice on my own farm for the last ten years, and the result is it has more than doubled my crops. H.

Epping, N. H., 1869.

BOTS IN HORSES.

I cannot refrain from writing a few words about bots, since reading what was published in the Farmer of the 17th of July. I believe bots *can be* removed from horses without harming them in the least. First, give the horse two quarts of new milk, sweetened with one quart of molasses; second, fifteen minutes after, give the horse two quarts of strong sage tea; third, twenty minutes after giving the sage tea, give the horse three pints of currier's oil. The bots fill themselves with the milk and molasses and become lazy, the strong sage tea shrivels them up, and the carrier's oil, acting as a cathartic, carries them from the stomach, when they pass away from the horse. In giving the medicine put an open bridle on the horse, take him into the barn floor, step upon a girt or scaffold, draw the horse's head gently over the beam, holding up on the bridle, when his lower jaw will drop; then insert the neck of a bottle, and pour the contents gently down the horse. *Do not gag the horse or pour the medicine into his nose.* This is a simple remedy, easily applied, and I hope our Quidnick friend will try it and report the result in the FARMER. I have seen it tested, and am convinced of its efficacy. D. L. S.

East Madison, Me., July, 1869.

TOMATO SUPPORT AND MULCH.

Among the many contrivances to support tomato plants, the best and cheapest method I have ever adopted, is to place straw around and under the foliage some six to eight inches thick, which will afford all the support required, and when the tops become heavy, they will fall gracefully over on the straw bed so invitingly offered them, and thus display the fruit to the sun, where it will ripen cleanly and sound. The straw cushion also is an excellent mulch, highly beneficial to the plant.

Shoreham, Vt., July 20, 1869. W.

AGRICULTURAL ITEMS.

—The Pennsylvania farmers believe the average crop of rye straw to be one ton.

—Salt sprinkled between the leaves of cabbage is said to be an efficient remedy for lice.

—A root of clover five feet long has been exhibited at Centerville, Mich.

—A little spirits of ammonia is said to be the best known remedy for bee stings.

—A California paper says many farmers in that vicinity cut off the top of young wheat, with mowing machines, to prevent too rank growth of straw.

—A lot of Texas beef was recently received at New Orleans in a steamer fitted up with refrigerator apparatus, in good order, after a five days' voyage.

—While Mr. Aaron Bussell, of Gilmanton, N. H., was driving a cultivator through his corn field, the implement struck a stone, throwing its handle against Mr. B.'s side and breaking one of his ribs.

—The Corydon, Iowa, *Monitor* says a farmer near Bloomfield sold the crop of timothy on 300 acres, as it stood, for $2400 cash. The parties purchasing bailed it on the ground for the St. Louis market.

—Mr. Cooper Sayre, of Ontario Co., N. Y., sheared 150 pounds of wool from eleven yearling Cotswold rams. He left at the office of the *Country Gentleman* a sample of wool, fourteen inches long, of one year's growth from a yearling ewe.

—Mr. C. R. Fuller states in the *Rural New Yorker* that his father killed a horse by administering sassafras tea by turning it from a bottle into the animal's nose. On opening the horse its lungs were found full of the tea.

—Jonah Swan, of Milton, Vt., has a grade Durham cow, five years old, that averaged through the month of June forty-three pounds of milk per day, and did it without any extra feed, running with nineteen other cows, and having the same feed.

—Mr. S. D. Hayes, of Boston, has analyzed a specimen of the weed known on the Connecticut river farms as "Fox Tail" or "Colt's Tail," sent to him by Mr. Wm. Fairbanks, of St. Johnsbury, Vt., and concludes that it is not poisonous to horses or cattle.

—A poisonous bush has proved very destructive to sheep in Australia. It is a pretty shrub about four feet high, with a bright scarlet blossom. The botanical name is *gastrolobium grandiflorum*, and over 2000 sheep have been lost out of one flock from eating this bush.

—George W. Penney, of Newark, Ohio, sheared 484¾ pounds of wool from forty two-year old Merino ewes, an average of twelve one-sixth pounds. Last year the same ewes gave fleeces of the average weight of eleven one-eight pounds. Such is the remarkable report he furnishes the *Rural New Yorker*.

—A horse that is in the harness every day needs an abundance of food and the right kind. Oats make more muscle than corn, and should always form part of the food of a hard-working horse. Corn gives plumpness and imparts warmth. The colder the weather, the more corn; the harder the work, the more oats.

—Mr. Meehan, of the *Gardener's Monthly*, is very positive as to the uselessness of attempting to preserve the tap-root in transplanting. He says "the shortening of a tap-root is of no more injury to a tree than the shortening of the finger nails to a man. This matter was settled by Senebier and others over a hundred years ago. Their experiments we have repeated; and no intelligent man teaches any other doctrine."

—The Laconia N. H., *Democrat* says there is a calf in Gilmanton, otherwise all right, that has not a sign of a tail. While a group of persons were looking at the calf, the other day, and wondering how he would manage in fly time, they were joined by a city bred individual, a graduate of Dartmouth College. The learned graduate, after listening to the comments, inquired how old the calf was, and on being informed, innocently asked, "Do calves of that age usually have tails?"

—A correspondent of the Missouri *Journal of Agriculture* says that flies are so troublesome to horses on the prairies of that State, that though the feed may be plentiful, they gradually fall off in flesh, and if a horse is sick in fly-time they soon make an end of him. He says all washes he has ever tried are useless; nothing but a net or sheet will protect the animal. He recommends that those not used be shut in a dark stable during the day and turned out at sundown. In this way he says you will not only confer a comfort on your animals, but have the satisfaction of seeing them grow fat and sleek.

Ladies' Department.

OUR CHILDREN IN HEAVEN.

BY ADELAIDE PROCTOR.

Our God in Heaven, from that holy place,
  To each of us an Angel guide has given;
But mothers of dead children have more grace—
  For they give angels to their God and Heaven.

How can she sin? Our hearts may be unheeding,
  Our God forgot, our holy saints defied,
But can a mother hear her dead child pleading,
  And thrust those little angel-hands aside?

Those little hands stretched down to draw her ever
  Nearer to God by mother love—we all
Are blind and weak, yet surely she can never,
  With such a stake in Heaven, fail or fall.

She knows that when the mighty angels raise
  Chorus in Heaven, one little silver tone
Is hers forever, that one little praise.
  One little happy voice, is all her own.

We may not see her sacred crown of honor,
  But all the angels flitting to and fro
Pause smiling as they pass—they look upon her
  As mother of an angel whom they know.

* * * * * * *

Ah, saints in Heaven may pray with earnest will
  And pity for their weak and erring brothers;
Yet there is prayer in Heaven more tender still—
  The little children pleading for their mothers.

DOMESTIC ECONOMY;

OR,

HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

CHAPTER XVII.

A CHAT ABOUT CARPETS.

Now that house-cleaning is accomplished, our thoughts turn naturally towards furniture—floor-coverings, carpets, rugs and mats first claiming attention. For, besides contributing to the adornment of a house and saving much labor of sweeping and scrubbing, they are great protections against cold and dampness,—and thus promote comfort and health. Hence "a bare floor," has become almost a synonym for discomfort and untidiness; and the laudable ambition to furnish her domicile with floor coverings,—beautiful, if possible, as well as useful,—leads many a housekeeper to wonderful efforts in their manufacture,—as it did the mother of the younger Beechers. Who has not read with interest the account of her weaving cotton cloth, designing a pattern, procuring paint, and then painting it—thus making that famous carpet which for many years adorned her prim parlor, receiving the admiration and exciting the envy of her husband's parishioners? Possibly the ingenious work of this woman gave a hint towards the manufacture of canvass carpeting, now so widely used for floors where much walking is expected, or where there is great liability to dampness or dust.

An unpainted floor, without rugs or mats of some kind, is always a great trial to a housekeeper's patience. It is almost impossible, with the most faithful scrubbing, to remove the traces of muddy tracks or slops from its blank surface (that sets even the shadow of a mark in the boldest relief;) and the most abject scouring is needed to keep the pitiless boards clearly clean. It is to be hoped that the righteous souls of few housewives, at the present day, are vexed with the care of such a floor, when the toil to make it clean and the anxiety to keep it clean can be prevented by covering it with a coat of cheap paint which she herself can apply.

A bright orange is the most durable paint for a kitchen floor. Make this of yellow ochre, or Brandon yellow, boiled linseed oil, and a little spirits of turpentine, according to the directions for mixing paints given in Chap XVI. Give the floor three paintings; wait two days between them, so that the paint shall get well hardened. Then varnish it, and let this also become very dry before stepping upon it. If this floor is always washed with a cloth, by hand, out of clean suds,—dirty suds sullies the color—and a thin coat of varnish is applied every spring, it will retain its good looks a great many years. In the fall lay thick carpet paper upon it, or two or more layers of newspapers, and upon that strew oat or wheat straw, or dried grass of any kind to the depth of an inch, and then spread and tack down a home-made woolen carpet—directions for making which will be given further on in the present chapter.

Dining-rooms, stair-cases, and entries look cool for summer and are easily kept clean, when painted in imitation of marble. Give the floor a coat of white paint and let it dry thoroughly; then, while applying the second coat, trace upon it with a feather dipped in black paint (made by mixing lamp-black and oil) the veins and spots seen upon marble, and blend and shade the two colors with a dry brush. A person of very little ingenuity, who has ever seen marble can easily imitate it, and thus make a handsome floor-covering that does not show dust and is very durable. Remember that carpets should never be tacked over a painted floor without something beneath them to receive the dust, that sifts through them and grinds and cuts the paint if not intercepted.

Painted carpeting, by the multiplicity of its colors and designs, hides dust and stains, while rivalling in brightness and beauty the productions of the proudest looms, and is, therefore, desirable for chambers, dining-rooms and halls—apartments where there is much stepping, but not constant occupation. If, however, canvass carpets are used for apartments that are constantly occupied, as they are deficient in warmth, they should have laid upon them rugs and mats, in plenty,—especially during winter. In selecting these carpets get only the well-hardened and thickly painted—such as are stout and stiff—all others are soon defaced. Varnish them immediately after they are laid; and, if they are subjected to much wear, varnish them every spring. For these, as for painted floors, use cheap copal varnish (quite thin—nearly as limpid as water) which must be thoroughly dried before the floor is walked upon,—a week is none too long to devote to this.

When procuring a painted carpet, if possible, get it in one piece large enough to cover the floor; because no matter how closely the edges of widths meet they will eventually wear away. If of several breadths the selvage must be cut away with a sharp knife, using a yardstick or rule to cut it perfectly straight—and the figures matched at the meeting of the breadths (they must never be lapped) so that the design is complete. This carpet should lie upon the floor without tacking; yet when made of a number of pieces, where there is much stepping, it is sometimes necessary to tack each at short intervals; but the less the better, and tinned tacks only should be used, as these do not rust.

A neat and nice summer carpet is the Canton matting—commonly called *straw carpeting*. It does not retain dust, is very easily swept, and is so cool and clean it should be on the floors of all bedrooms during warm weather; on account of these good qualities it is particularly desirable for the carpet of an invalid's room. It is apt to get brittle and to wear away about a hot stove or register in cold weather, but if a piece of painted carpet—lined by pasting thick brown paper to its wrong side—is laid where there is fear of this, it will remain strong and whole for years. The tinned tacks should fasten this to the floor—the breadths meeting closely. They should be cut long enough to be turned under an inch and a half at each end. This may be overcast with thread; binding tears away, and a hem is too clumsy.

A cheap and pretty covering for a chamber floor, or a staircase that is little used, is bright-colored wall paper,—one of low price and neat design; block or chain-work, or leafy and flowery patterns on a stone or clay-colored ground, are most suitable for this purpose. Cut and paste the breadths as for a wall, adding half as much glue directly to the paste as would be used for making glue water for the wall. The second day after it is pasted upon the floor varnish it as you would a painted carpet. It is better to varnish it twice, and then treat it in every respect as a painted carpet.

A cheap and tolerably strong carpet for common rooms is the Scotch or hemp carpeting. But don't buy a cotton carpet, or a cotton and wool, or a very low priced all wool; for the wool is sure to be shoddy, and the cotton fades very quickly, so that even with the greatest care, they look dingy and mean in a very short time. A home-made one of rugs is a great deal better and handsomer. If you cannot have that, content yourself with a few rags or mats of your own manufacture till you can afford a good ingrain woollen one, which, if of soft wool and well woven, is the most durable that can be bought.

The only advantage which a three-ply has over an ingrain is the greater variety of colors and figures which its style of weaving admits; but one of its plys is apt to wear off soon, and that gives the carpet a shabby look, and the pattern does not look well on both sides—as is usually the case with the pattern of an ingrain or two-ply—besides being much more expensive than that. A nice American ingrain carpet is handsome enough and good enough for any American home; but if women have more money than they know what to do with, they can buy tapestry and velvet; which, beautiful as they may be, require such careful usage to retain their good looks, even when of the very best of Brussels and Axminster, that it is much wiser to be satisfied with an ingrain and put the surplus money into pictures for the walls.

In laying carpets it is well to remember that small figures, which require the webs to be frequently united,—thus tacking them together as it were—are a means of strengthening the fabric. They also give a neat appearance to a room, while seeming to enlarge it. And light colors—such as drab, light stone or buff—with white and light green, and a very little red, maroon, dark green or black—are most suitable for a floor that must be subjected to litter and dust. While browns, scarlets, crimsons, greens and other dark colors, with little or no admixture of lighter colors or white, should not be chosen for an apartment that is in constant use, unless one is willing to keep a dust-pan and broom constantly in hand. Blues and purples are miserable colors for a carpet. All the shades of brown are excellent; so are the yellow-greens; and the scarlet reds; and the corn-colored buffs.

Before cutting a carpet, having ascertained the number of breadths needed to cover the floor, be sure that the figures of each seam are so laid together that they will be correctly joined; as it frequently happens that by unequal weaving some breadths having only the same number of figures vary greatly in length. Then cut them long enough to make a double hem half an inch wide at each end. Hem these as soon as possible after they are cut with strong linen thread, well waxed. Then on the wrong side of the carpet, fasten together, with two or three stitches at every figure of the seam, the selvages of the two breadths. To sew these seams use the strongest of linen thread, stiffened with beeswax. Begin by fastening the thread at the right hand end of the seam. Then for the first stitch bring the needle *towards* you by passing it under the two outer threads of the selvage of the breadth next you; for the second stitch pass the needle under the same of the other breadth in a direction *from* you. Again, bring the needle *towards* you, as in the first stitch, and then pass it from you, as in the second; and so on; thus making a sort of lacing together of the two edges, which results in an elastic, yet strong and flat seam. If the selvage is loose, or stretched, in any place, or if by making the proper joinings of the figure much fullness of one side is occasioned, draw in the outer thread of the edge by an over-cast stitch. The breadths of velvet, tapestry, or any tufted carpet should be sewed in close over-stitch and the seam pressed with a warm flat-iron.

Linings, whether of paper or cloth, add to the durability of a carpet. But if between them and the carpet is placed a layer an inch thick of straw or dried grass (see that no sharp substances, or very stiff straws aré among them, as they would cut and injure the carpet,) then the dust will sift down among the straw, which would have remained on cloth or paper to chafe and wear the web of the carpet. A layer of cotton batting, or an old quilt, beneath the straw, gives elasticity to the carpet after the straw has become settled. For stair carpets the batting and straw are excellent. A good bocking is quite expensive, but it often saves more than its cost for the covering of the middle of a nice carpet; and may in emergency, with a good lining of straw and cotton, serve as a carpet.

Common iron tacks answer very well for fastening down woolen carpets. They are more easily taken out, and with less danger of tearing the carpet, if they are shielded by bits of leather through which their points are passed. This, children can do,—cutting the leather of old shoes into pieces a quarter of an inch square for the purpose.

Putting down a carpet is really too hard work for a woman; but, as there are times when some women feel obliged to do it, here are a few hints towards facilitating the job: It is important that the carpet lies straight; and that it is tacked straight, without strain or loop in any part. If it is scant of length, or strains, stretch it by pushing it gradually a yard, or more; then tack it lightly there, and go again over the same in the same way, two or three times. You will gain a little each time, which you will pass on by removing the tacks; and so proceed till you have the desired quantity at the end of each scanty breadth. A carpet-stretcher is of great service for this work. Very few have this, but a strong wooden rake fills its place pretty well,—or a wooden mopstick. If neither of these is accessible, it must be done by actual pushing, while crawling on the hands and knees—which many women do,—much to the disgrace of every whittling Yankee who has not made a carpet-stretcher.

Nothing prettier in the carpet line was ever made than the striped yarn carpets which the industrious housewife of olden times,—after she had pulled, carded, spun and woven wool enough to furnish clothing for her family,—used to weave from the spinning of the tag-locks. Proud, indeed, was she to set up her dye-pot and to try her skill in copying both in colors and weaving the most brilliant of Wilton stripes; and their harmonious tintings of green and drab, lighted up with scarlet and yellow, seemed always to fill the apartments that they bedecked with verdure and sunshine. Then there were her knitted carpets for stairs and narrow entries,—made (on long wooden needles,) of this same yarn, either in heel or garter stitch, as the fancy took her; striped either perpendicularly or horozontally, according to the proportion and variety of her colors. These were strong and beautiful.

But some sagacious woman found out that a web of coarse hempen threads, or twine, filled with a woof of yarn, made a much stronger and nearly as beautiful a fabric as that of yarn for both warp and woof. And not long after another saving mind (I think she must have been related to the renowned wife of John Gilpin) concluded to use her carpet yarn for other purposes, and substituted for it—what she had hitherto considered of no value—the narrow trimmings and clipings made in cutting garments. These, woven into the warp of twine, made a very pretty as well as serviceable carpet. She took out no patent for her invention, and even to this day, her work has copies in many a thrifty household. It is very desirable as a winter covering for a kitchen floor. Those who still retain the old-fashioned looms that once occupied one end of every farmer's keeping-room would do well to set the shuttle flying through a fabric of this kind.

The most common of home-made carpets is what is usually called a strip or rag carpet. Material for this may be found in any family where there are men and boys—pieces of thick woolen cloth that are left after cutting and mending their clothing, and the best portion of such garments when so worn out that they cannot be put to a better use. Selvage—listing of broadcloth, doeskin, and such sort of goods—is excellent for this purpose; and it is good economy to buy this of the tailors—as well as the pieces which they make in cutting men's garments, if you haven't material enough of your own. Both these pieces and the listing should be cut into strips a quarter of an inch or a little less in width. These strips, being of various lengths, must be sewed together by lapping ends so that they form a double square the size of the width of the strip and stitching neatly all around the lapping; thus making a piece several yards in length, which should be rolled into a ball. A great many of these balls should be on hand before beginning to plan the carpet. The different shades of blue, drab, gray, &c., should be sewed separately. Also the bright-hued flannel and delaine (in a dearth of these, gay tinted lining cambrics,) which are needed to relieve the more sombre hues of heavier cloths; but only plain, solid colors can be used. As these goods are thinner than the rest of the materials they must be cut twice the proper width, and used double. So, after joining their strips, they should be folded in the middle and pressed flat with a hot iron.

About one hundred and fifty strips are needed to make a web one yard wide. Some persons prefer weaving a long piece of this width, cutting it in lengths, and sewing those together to make a carpet; but, if a frame large enough can be procured, it is better to weave a carpet the full width and length of the floor it is to cover, in one seamless piece. A web planned in plain stripes, six or eight strips to a stripe,—of drab, blue and gray, alternating with red, green and a little yellow or white,—black being placed beside each color to give it distinctness—the woof of black entirely—makes a handsome carpet. But a checked carpet may be made, using the same colors for the woof or filling as for the web; and stripes of diamonds and circles may be introduced among plain stripes with good effect, by cutting a sufficient number of strips in proper lengths for forming these figures.

The fabric must be woven in a quilting-frame. One end of each strip of the warp must be strongly stitched to the cloth heading of one of the mortised bars of the frame; every strip lying smoothly and just touching its fellows, so as to make a thick, even web. Then the end bars of the frame are to be inserted through the mortises of this and the other mortised bar, and fastened at a convenient distance. Over the space thus made pass the strips, and pin each tightly to the heading of the other mortised bar. Keep the strips in tight balls to prevent them from getting snarled, and the carpet is ready to be woven.

Begin by sewing a strip of the filling to the warp-strip which forms the right hand edge, lapping it well, and stitching around and across the double square thus formed; then, with your left hand take up six or eight alternate strips of the warp and pass under them the filling strip—this will make plain weaving of over and under the strips. Go across the web in this way, and then cut off and fasten your filling to the left hand edge, as you did at the right hand; then begin the next at the right, and proceed as before—being careful to make no mistake by passing over or under two strips instead of one. Some persons do not cut off the filling at the left hand edge, but pass backward to the right; leaving thus a loose selvage, which is neither so neat nor so durable as that formed in the manner just mentioned,—while it is very awkward to weave in a backward direction. Pass the fingers of the right hand ocasionally through the unfilled web, bringing them with force against what you have woven,—in order to press the filling thickly together and to make it straight. And to keep your work from drawing in, and so making it uneven and narrow, pin bands of strong cotton cloth to each selvage, and fasten them tightly around the ends of the frame.

When the warp is filled as far as you can conveniently reach, unpin the strips from the frame, take the end bars from their mortises, roll up the woven portion of the carpet over the bar to which it is attached, and replace the end-bars and fasten them; and then partly unwind the strips from their balls and pin them to the heading as at first; and so go on till the warp is all filled. Then cut the carpet from its frame, stitch the last row of filling to the warp-strips (in the same way as you made the selvage), also the first row at the opposite bar—having unrolled your work—and the carpet is made, all ready to be tacked to the floor. If care is taken to mend the strips whenever they break, and to replace with new those that get worn out, a carpet of this kind may be kept handsome and strong a great many years.

Very pretty floor mats may be made of just such strips as form this carpet. For a frame to weave them in, take a large barrel or hogshead hoop and wind around it cotton cloth. Sew to this twenty-five or thirty strips—to compose a narrow web;—they must be just long enough to pass tightly across the centre of the hoop. Then, in an opposite direction, fastening each strip to the hoop as you proceed, weave in the same number of strips of the same colors, so that you make a woven square in the middle. Then fill the triangular spaces, left empty, by strips sewed by one end to the cloth wound around the hoop, and by the other to the outer strip of each web forming the square, and with a long strip weave around the square till the frame is full, and you have a round mat. Rip it from the frame and sew around the edge two or three rows of points cut from the pieces of cloth that were too small to make strips; these form a pretty border if their colors are tastefully arranged.

Braided carpets are very durable, and by a nice arrangement, combining both mottled and plain stripes, are very handsome. A flat braid of four or six strands is best for a large carpet, and list stripped in quarter-inch widths is nice to make them of; but flannel or other woolen goods, wide enough to be folded two or three times, is needed to give it brightness, for it needs strong contrasts of color. Make your braids of the requisite length, then sew them together with strong thread, well waxed,—good shoe thread is just the thing,—with beeswax. Some persons sew braids in over-stitch. But it is much better to pass the needle and thread through a strand of the two braids to be united, just under the surface, in close darning, as it were, back and forth; then the thread does not come in contact with the floor, and so is not worn out; and your carpet looks equally well on both sides.

Braided mats are very serviceable. If you have any bits of "boughten" carpeting, they will make pretty centres for these. Line them, or use them double, because the braids surrounding them will be so heavy that single carpeting would soon break away from them. All sorts of rags can be used for braided mats; soft and thin woolen are the best. Fold the material so as to hide all raw edges, and make each strand of the same width and fulness. A round strand, almost a roll, is better than a flat one for mats; and a braid of three or four the prettiest. Two or three colors together make a handsome mottled braid, which when alternated with plain braids have a lively appearance. An oval is the most convenient shape, and the easiest to form. If you have no carpeting for the centre, for a mat that shall be a yard at its greatest length, and three-quarters at its greatest width, make a braid six or eight inches long and finish both ends neatly. Then make a braid more than twice as long as this, sew the strands neatly together at the beginning, and pin the last end.

Braids, whether for a mat or carpet should be laid upon a table to be sewed—they will be more likely to attain a flat and even shape there; and, in fact, they are too heavy to manage in the lap. So you will lay the short braid upon a table and sew the other around it, with just such thread and wax, and the same sort of stitch, as for a braided carpet. If this braid is more than sufficient to go around, cut off the surplus. Meet both ends and join them on the back of the braid so neatly that the seam will not be observed. Sew around and join every row in the same manner. If you please, you can make a quantity of braid before beginning to sew, but each row that is added to the mat must be united by its ends so that the mat is a succession of unbroken rings. (Some persons make these mats of one long braid, so that when different colors are introduced the mat looks crooked and broken, and the closing off seems unfinished.) Two or three rows of points cut from thick woolen pieces make a pretty border; but the mats are handsome enough without, if their two or three outer rings are of dark braid.

There is no piece of work that so betrays a person's habits as one of these mats. She who is accustomed to do things carefully will make them of smooth, even, tight braids that will last in constant use a dozen years; while a careless and untidy person will be satisfied with irregular, rough and loose work that scarcely pays for the time spent upon it. To make these mats lie perfectly flat, place them beneath heavy chests, or under the feather-bed or mattress in beds that are occupied, and let them remain there a week or ten days before using them.

Crocheted mats, made either of very coarse yarn or of narrow strips of woolen cloth, are quite pretty and durable. If of cloth, fold and press it, and make each stripe around complete in itself. Rugs and mats imitating cheneille are made of very small pieces and parings of all sorts of cloth—that which is cut crosswise is best. The edges are picked, or ravelled, and the pieces are then gathered on a strong thread—and drawn so closely together that nothing but the fringed edges are seen,—into long bunches, which are sewed in over-stitch to a thick cloth. Similar to these are mats made of squares, or rounds an inch in diameter, that are folded in quarters and each piece sewed by its centre to a thick cloth. Sail-cloth is good for these, and also for the cheneille mats. The design should be simple: a star of various shades upon a plain ground bordered with scrolls; or the centre of one color only, surrounded by block-work, or the Greek border near the edge, gives a handsome mat.

Carpets and rugs of looped work are often very beautiful, and are the strongest of rag carpets. The foundation of these is tow-cloth, between the threads of which narrow strips of all kinds of cloth are drawn. Sometimes by being attached to a needle and thread; but, much easier, by being hooked through by an iron instrument made like a very large crotchet needle. If these are not found at the hardware stores, any blacksmith can easily make one. The tow cloth should be quite stiff. A carpet must be made in breadths, which, when finished, sew together like those of a tapestry carpet. Extend these breadths in a frame—a quilting frame answers very well—and as the work proceeds roll it up, as in making a strip carpet. Almost any lady can draw designs by having the articles before her to copy.

After the cloth is extended, having decided upon the pattern—groups of flowers, with a great deal of foliage are the easiest to make, and are also the most effective—take measures for ascertaining the centre of the width; and here you will commence the centre of the design. It is less monotonous to alternate large and smaller designs, and so attention must be paid to the relative space each requires. A carpenter's pencil, a piece of red chalk, or a bit of charcoal is needed to draw with. It is necessary to trace first a circle, or an oval, that will include the space occupied by the design—to be obliterated when the drawing is finished. For this lay upon the cloth a cover—a tin pan, or something of the kind—and mark lightly around it. Then take two ar three roses with their buds, and the same of lilies, with a few of the rose leaves and other larger leaves—such as grape or maple leaves. Arrange them tastefully in a broad dish, containing water to keep them fresh, upon a table just beside you; and then lay, one by one, drawing its outlines as it lies, just such flowers, buds, and leaves, upon the cloth, within the circle just traced. After the outlines are marked it is easy to draw the edges of the petals, and the veins of the leaves, by looking at the flowers in the dish. The group should not be crowded, but the leaves may hide part of some of the flowers in a natural manner, and the buds, which contribute largely to the beauty of the pattern, be allowed due prominence.

Generally, the flowers wrought in carpets are too large to be handsome—the natural size is by far the prettiest. If you want gaudy figures copy peonies and tulips; but roses, lilies, asters, daisies, dahlias, always look well, and show good taste. It is imprudent to attempt to copy any smaller flowers than these, as in drawing in the plain color for the ground of the carpet you would have great trouble in keeping their forms distinct and regular. For rugs, a wreath prettily arranged is a good design; or the centre may be a group of flowers, while near the edges a border of grape leaves, or of the convolvulus (morning glory) vine in bloom, is portrayed with good effect.

The rags composing these carpets and rugs vary in width according to their thickness; the strips must be substantial enough to fill the interstices of the cloth through which they are hooked with loops so tight that they cannot be easily taken out. Hold the strip with your left hand under the cloth, and push the hook held in your right hand between the threads of the cloth, and thus draw up the strip into a loop half an inch long. Make the loops as close as they will hold in the cloth. The work is very handsome with the loops uncut; but if they are sheared it is as beautiful as velvet. Soft woolen and old silk make the nicest pile. Carpet thrums, obtained at carpet mills, are next best. Old doeskin and broadcloth look very well, and, though they are extremely hard to loop, they are so durable that they are always desired. Cotton rags may be introduced, in small quantities; in fact, any sort of rag that can be used in no other way is available in loop-work.

Do not forget that to make a good carpet or rug of this kind the loops must stand firm in their places by their own thickness, and must be as close together as possible. I have seen loop-work that was covered on the under side with stiff flour paste to keep the rags in the cloth, and even with this they were constantly dropping out. But when well made there is not the slightest need of paste, and the work will last a lifetime, standing unharmed through many a violent shaking. It is hoped that the importance of the subject is sufficient excuse for the great length of this chapter.

For the New England Farmer.

LEMON PIES.

For the benefit of "A Reader and Subscriber," I send the following receipt for making lemon pies:

For two pies pare three lemons; press out the juice; remove the seeds; chop the lemons fine; to the lemons and juice add three or four eggs; three cups of sugar, (I use maple, but crushed is better;) beat the mixture well; crust the same as for apple pies, except it needs more shortening; the batter will appear thin, but confine it well with the top crust and it will come out of the oven all right. In paring your lemons be careful to remove all of the white, or your pies will be bitter.

North Danville, Vt. MRS. WM. J. STANTON.

For the New England Farmer.

WASHING FLANNELS.

MR. EDITOR:—In the FARMER for May 8, you give a good rule for washing flannels, but I think mine is better. It is as follows:—

Dissolve in a tub of hot water (as hot as the hands will bear) sufficient *soft* soap to make a strong suds,—the rosin in *hard* soap makes flannel stiff. In this rub the flannel, with the hands, gently. When it is clean take it into a tub of clear warm water that has been blued, and rub it well, not roughly. Then wring it out as dry as possible in a towel if you please. Open a table, and lay the flannel on this, making it straight by the side and end of the table. Then smooth it across and downward with the hand till it is square and straight and all wrinkles are gone. Then dry it as quickly as possible,—on a horse by the fire, if you can. Meanwhile let your irons be heating, and before it is wholly dry press it with moderately warm irons.

Flannels should never be taken from warm water to cold, nor dried in a draught of cold air, nor allowed to freeze. Such management shrinks and yellows them. NEMA.

AMONG the superstitions of the Seneca Indians is one of singular beauty. When a maiden dies they imprison a young bird until it first begins to try its power of song, and then, loading it with caresses, they loose it over her grave, in the belief that it will not fold its wings nor close its eyes until it has flown to the spirit land, and delivered its precious burden of affection to the loved and lost.

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MONTHLY.

SIMON BROWN, } EDITORS.
S. FLETCHER, }

OCTOBER.

"Oh who would miss it? or forget
The suns that rise, the suns that set;
The rustle of the crimsoning leaf;
The gush and murmur of the stream;
The thoughts we think, the dreams we dream;
Those south-wind days—so bright, so brief—
Where, many-hued on wood and sky;
And many-voiced to ear and eye,
October shifts the scene?"

OCTOBER, most truly, "shifts the scene," and introduces Autumn in its sterner moods. Many persons dread this season. They say that Autumn is fraught with gloom; that fruits and flowers are falling; that the winds begin to sigh through leafless branches; the fields are brown or bare; the birds are gone, and with them all the beauty and animation of Summer. A mind thus affected is certainly in a miserable mood. It cannot have been trained to a critical observation of the beautiful and wonderful things in nature which are always around us, in all places and at all seasons, nor to those habits of reflection which bring the mind into harmony with nature and revelation; habits which increase our knowledge, and which actually drive away gloom and assuage the sorrows of bereavements or other trials of life.

It is somewhat strange that but a single person has written anything like a series of papers upon the *peculiarities of the months.* Shakspeare frequently touches with a masterly hand some of them, but only in a brief and disconnected manner. In his "Mirror of the Months," a work very little known in this country, Mr. Leigh Hunt has done more. Many years ago he wrote a paper upon each month for the Edinburgh *Review,* which attracted attention at the time, and were afterwards collected and published in book form. See, now, what he says of this month of October.

"After the joyousness of summer comes the season of foreboding, for the year has reached its grand climacteric and is fast falling into the 'sere and yellow leaf.' Every day a flower drops from out the wreath that binds its brow—not to be renewed. Every hour the sun looks more and more askance upon it, and the winds, those summer flatterers, come to it less fawningly. Every breath shakes down showers of its leafy attire, leaving it gradually barer and barer, for the blasts of winter to blow through it. Every morning and evening takes away from it a portion of that light which gives beauty to its life, and chills it more and more into that torpor which at length constitutes its temporary death. And yet October is beautiful still, no less 'for what it gives than for what it takes away;' and even for what it gives during the very act of taking away.

"The whole year cannot produce a sight fraught with more rich and harmonious beauty than that with which the woods and groves present during this month, notwithstanding, or rather in consequence, of the daily decay of their summer attire; and at no other season can any given spot of landscape be seen to so much advantage as a mere picture."

Very little is known of the value of trees by many of our people, except that some of them bear fruit, afford a pleasant shade, make fuel for the fire, or timber for building purposes. Perhaps they have never contemplated a landscape or a dwelling without a tree for ornament or shade, and much less trees as co-workers with the atmosphere in fertilizing the soil and fitting it to produce the crops by which man and beast are sustained.

Whatever affords innocent pleasure to the mind is valuable—whether it comes through the eye or ear; whether in language, music, rock, tree, or flower. The soul is expanded by a contemplative view of the starry heavens, though it may not be in possession of much exact knowledge in relation to any of the celestial bodies which are shining before it. So it may be by a view of the vast and restless sea, as the "wild, the irregular, the illimitable, and the luxuriant have their appropriate force of beauty," as well as the minute things which are by all acknowledged to be beautiful.

One of our own writers,—whose words have often adorned these columns,—in an article upon *The Fall of the Leaf*, says the "two most interesting periods to one who is in the habit of associating some agreeable sentiment with the phases of nature, occur when the trees are putting forth their tender leaves and flowers in the opening of the year, and when they are assuming the variegated hues that precede the fall of the leaf. Hence, the autumn and the spring have always been regarded as pre-eminently the two poetical seasons—the one emblemizing the period of youth, the other that of old age. But to the eye of the painter, as well as the poet, do these two seasons offer the greatest attractions. * * The beautiful tints of autumnal foliage are not correctly attributed to the action of frost. Neither are they the effect of maturity, but rather of the old age of the leaf; and they may often be discerned as early as August in those trees, which are in a declining state of health. During the second week of August I observed a maple in its full autumnal drapery of crimson. On examining it, I found that the tree had been nearly girdled. The wound had been healed, and left only a narrow strip of bark about three inches in width to sustain the whole plant. This might have been sufficient for that purpose, during a moist summer; but on account of the drought of the preceding July, it failed to supply the tree with sustenance, and a premature old age of the leaf and its accompanying tints were the consequence. A severe frost at that early date would have produced no such effect. An early frost always injures these tints by searing and embrowning the leaves which are exposed to it. This effect was clearly noticed in the autumn of 1853 when the leaves that ripened later than usual, on account of long continued rains in the latter part of summer, were overtaken by two very severe frosts, before they had begun to be tinted.

"The cause of the superior beauty of our autumnal hues, compared with those of Europe, is undoubtedly the greater intensity of the sun's rays and the greater proportion of clear weather in America, causing the leaves to arrive sooner to maturity and old age."

So the month of October, though hastening on the natural process of decay in the vegetable world, has its compensations in clear, beautiful days, in calm and starry nights, in ripening crops, in the pleasure of travelling, in the delightful open fire in frosty evenings, and in many other things and ways that are instructive and attracting.

What care we, then, for falling leaves,
    Song birds flying,
    Garlands dying,
Or the wind that lowly grieves?
Come, my bird, and sing to me,
    Cheerily, so cheerily!
    Thou sweet spirit,
    Dost inherit,
Life to make the autumn time
Change to summer's richest prime."

WAGES.—Soon after the Revolutionary War, Gen. Washington wrote to a friend for a Steward. Had paid $100 a year, but for the right man would go as far as $125!

FARM MATTERS IN OCTOBER.

Each month in the year has its *special*, as well as general duties. The special ones are those which can more appropriately be performed now than at any other time. October will probably afford all farmers better opportunities for doing many things than will occur during any other month of the year. It is certain that many kinds of work cannot be done while the ground is in a frozen condition.

One of these duties is that of draining lands which are unfit for cultivation in consequence of a surplus of standing water in and upon them.

The importance of drainage is better appreciated than it formerly was; indeed, many persons *believe* in it *now*, who never did before. Some progressive neighbor has placed an example before them, whose excellent results have won them over to the good work.

Few operations on the farm are scarcely less economical than attempting to cultivate land that has standing water in it. It is in a great measure labor thrown away. The soil is inactive, torpid as it were, so that it is about as capable of producing crops as the frog pond itself. Such lands will produce a certain amount of grass of an ordinary quality, and if drainage upon them is inexpedient in consequence of want of outlet, distance from home, too rocky or otherwise expensive, the best way is to let it produce what fodder it will without bestowing much labor upon it, or allow it to grow up to wood, if it will Thorough drainage will pay a better interest on the sum expended in doing it, than United States bonds, or most other investments.

Another October duty is with regard to manure. We have often stated as our opinion that there is no mode of applying manure to the soil, which is so cheap, and at the same time so efficacious, as to apply it in its crudest condition and plough it under the surface some two to four inches. This opinion was formed from the most careful practice in the employment of manures in various forms and ways.

When ploughed under towards the close of October, it suffers no loss whatever. Whenever the soil becomes sufficiently warm to induce fermentation, the gases thrown off are at once taken up and held by the soil—storing them in fact—for future use. This operation is said also to have a mechanical effect upon the soil, similar to that of yeast in a pan of dough, raising it by separating the particles, and thus making it lighter for the roots of plants to travel in, and to admit warmth and air.

If inconvenient to plough under, manure may be taken to the field, placed in a compact heap and covered with loam. It should be placed as near the spot where it is to be used as possible. In this form and place it will be ready for early overhauling in the spring.

It is time in October to commence fattening the swine, by feeding them more liberally than they have been through the warmer months. They will gain faster now than when the weather is cold. Always furnish them with a *dry bed*, and where the wind will not reach them, especially through cracks in the floor. They will thrive better if fed upon a variety of food, and some of it should be of a succulent or juicy nature, in order to keep the system in the most healthy condition.

Do not allow the stock to feed the mowing fields too closely. The effect is hurtful to future crops. The growth of the plants is stopped by taking off the leaves continually. If the plants continue to grow until arrested by frost they take deeper root, are better able to resist winter killing, and are made permanently better.

October affords a good time to clear up under walls, to repair fences, cut bushes, to put the buildings in order by making needed repairs before November winds break down barn doors, or set shingles and clapboards flying.

Finally, the present is an excellent time to make a great deal of preparation for the work of next spring. Very much may be done now to forward business, in removing stones from fields that are to be sowed to grain and grass in the spring, and by ploughing and levelling them for that purpose. This preparation is a slow work, so that by doing much of it now, the spring work will go briskly along, and crops will be in all in good time.

These and many other things may be done in the pleasant month of *October*.

THE *Country Gentleman* says that all heavy oats that have been introduced have degenerated after a few years to the old standard.

For the New England Farmer.

THE GARDEN IN OCTOBER.

How swift the months pass! It seems but as yesterday we commenced the year with our season's plan for the garden, and here we are in the last month of Fall, and at the closing up of our out door operations, so far as vegetation is concerned. Have we made progress or improvement in garden culture over former years? Have we not gained some new ideas from our past and present seasons' experience? If so, let us make a note of it, for future reference. The past season, in many respects, has been a remarkable one in New England, and so far as I am able to learn it has been unusual throughout our whole country. Storms, drought and cool weather, have prevailed to an unusual extent, in different sections, and we have been obliged to watch and tend what we have grown, with somewhat greater care than common. But where we have given extra attention we have obtained a fair reward for our labor, in good vegetables and enhanced enjoyment thereof; for it is a fact that we enjoy a thing better which costs us much trouble, than that which costs but little.

Have we tried any different or new varieties of garden products,—corn, potatoes, tomatoes, &c.? if so, what is the result? Have they proved to be an improvement, or otherwise, on old tried varieties? I have tried some different kinds of garden products, none of which I am at present well prepared to speak of, except some sweet corn. Last spring I received from the proprietor some "Farmer's Club Sweet Corn," highly recommended by the New York Farmer's Club, and by men of note, which I have tried; but either from the season or some other cause, it did not come to eating size in the time—70 to 75 days—as it was claimed it would do; neither do I find it superior to Trimble's, although a very good eight rowed, fair eared corn. I distributed seed to a few lovers of good sweet corn, but as yet have had no reports. Perhaps they may have succeeded better. The corn is rather dwarf in stalk, although stout and of purple color; the foliage is striped and handsomely variegated.

There are yet some crops which must be saved before they are injured by freezing. This, with preparation for next spring's work, will constitute the principal work of the gardener from this time onward. A good and careful gardener will keep his grounds clean and neat in the fall as well as at other seasons, and he never neglects to provide for the future fertilization of his soil.

Asparagus.—Were it not that injurious insects make a lodgement in the old stems, ready to come out in spring, it would be advisable to bend them over and let them lie till spring, but as the stalks do harbor insects, it is better to cut and burn them, and cover the bed with a generous supply of coarse manure, previous to setting in of winter.

Beets should be harvested before freezing, as a little freeze injures them for the table very much. Pull, top and dry them a little, and then store them in boxes, bins or barrels, filling in some sand to prevent their wilting, and keep them in a cool cellar.

Cabbage.—Although cabbages will endure a considerable frost without injury, it is best to gather and store those for winter use before freezing hard, as this injures their keeping qualities. They should be pulled up by the roots in a dry day and turned heads down to drain and dry previous to storing. If put away in a good cool cellar, where they will not come in contact with anything to gain moisture, &c., there is little danger but that they will keep good, provided they have not been frozen and are in good order when gathered and stored.

Cold Frames.—Those needed for wintering plants for early spring planting, should be got in readiness before the weather becomes too cool, and the plants put into them.

Hot Beds.—Prepare, against time of need, plenty of good rich earth, and keep it in a convenient place for use in hotbeds in early spring.

Prune out all decaying wood, and that affected by borers, from the currant bushes; clean up and make all snug, preparatory for a long winter, and then it cannot come upon you unawares. With all this out-door preparation, and provision of food for the body, do not forget to provide food for the mind during the long winter evenings, but lay in a stock of good agricultural and horticultural papers and books for the approaching long evenings.

W. H. White.

South Windsor, Conn., 1869.

For the New England Farmer.

VALUE OF PEDIGREES.

The communication of "Z. E. J." in the New England Farmer of Sept. 11, under the head of "Standard of Merit," is evidently written with a view to lessen the importance attached to recorded pedigrees of animals, yet to my mind it contains the best argument in favor of herd-book pedigrees.

The writer refers to two herds of non-pedigree animals, to wit, the Devon herd of H. M. Hall of Burke, and the Short-horn herd of Hon. E. Cleveland & Son of Coventry, Vt. In the case of the Devon herd, he says, it was established about forty years ago.—"started from the Patterson importation, and from time to time additions have been made from other stock of *undoubted purity of blood*." Further, he says, "Mr. Hall has had on his own farm two families, using the greatest *care* to prevent deterioration, but the animals are not recorded in the herd-book."

In the case of the Short horns of Mr. Cleveland's herd, "Z. E. J." says, Mr. C., in 1858, sent a special agent to Kentucky for some

Durham heifers which were obtained at quite a high price. A bull was bought in New York, of the Vail stock, and from this beginning a herd of great excellence has been bred, and has received premiums as pure blood Short-horns."

Now, in each case above referred to, what has this writer done but give pedigrees of Hall's and Cleveland's herds,—the best that can be given without their having been recorded in the herd-book?

If there is no importance in pedigrees, why take so much pains to trace their origin? What importance is it where Mr. Hall got his Devons, or Mr. Cleveland got his Short-horns? Or what matter is it whether these men have taken great care to prevent deterioration, if excellence of animals only is to be considered?

"Is not the pains-taking by which these have been produced entitled to encouragement?" asks "Z. E. J." Most certainly it is. This very pains-taking consists greatly in knowing "what animal begot a certain other animal;" and naming and recording are the only means by which these facts can be remembered and handed down from one generation to another, or passed from one proprietor to another.

So long as Mr. Hall and Mr. Cleveland live and can remember the origin of their stock, and their several and numerous purchasers can keep the run of their animals, very well; but when they cannot, what then? Will not subsequent purchasers wish to know the origin of their animals, as Mr. H. and Mr. C. have known? It is true that "eleven years ago there was less regard paid to herd-book pedigrees" than now; for then, to a certain extent, the memory of man was sufficient. The number of pure bred animals, at that time, was small, and could be traced by their several owners as well as the herds of H. and C. can now be by themselves.

At the present time pure bred animals have behome so numerous that there is no other way but to record; and in order that this information may be preserved and disseminated it must be printed, and this constitutes a herd-book pedigree.

I would like to ask Mr. H. and Mr. C. if they do not make a memorandum of what bull served a particular cow; and have they not had occasion to refer to their minutes? Have they not discovered that some particular animal bred better stock than some other animal, and that one animal would impart certain qualities that another animal would not? Have they not endeavored to record that fact, either in their own minds or by writing it? And what is all this but a herd-book of their own?

Herein consists the great importance of a herd-book pedigree. Had Mr. H. and Mr. C. recorded their animals in a public herd-book I should have been enabled to learn their pedigrees without waiting for "Z E. J." to communicate it through the NEW ENGLAND FARMER; a very good medium I admit, but hardly equal to the American Herd-book for the preservation of pedigrees and the convenience of reference.

Now I have recently bought thorough-bred Short-horns, in company with Messrs. Russ and Crafts; and, like Mr. Cleveland, we went to Kentucky after them and "took great pains to get pure-blooded stock," and we found that the best way to get at the most reliable history or pedigree of the several animals we bought was to go to known breeders, as I have no doubt Mr. Cleveland did, and get the best account or pedigree of the animals selected we could; and we found that, at this later day, the most reliable history or pedigree was contained in the herd-book,—consequently we bought herd-book animals; and the result is we can impart this information through the herd-book much more conveniently than by any other method.

N. B. SAFFORD.

White River Junction, Vt., Sept., 1869.

PRICES FOR THE YEAR 1870.

A Central Illinois correspondent of the *Country Gentleman*, who is occasionally more confident than correct in his predictions of future events, believes that for certain articles of food prices for 1870 threaten to be higher than they ever have been. "I refer more especially to corn, to beef and pork, and the products of both. No. 1 beef at 10c. a pound gross, on the hoof, hogs at 12 and 13c. and corn at $1, at first hands in Illinois, may seem enormous prices; and so they are. But it looks to me as if every article of these would be from 20 to 25 per cent. higher between this time and a year. The Alexanders, at Broadlands, in this county, have 5000 acres pretty fair corn, say 3.000 of good corn, and after extensive inquiry and observation, I understand they have concluded not to feed, but to sell it, since there can be no possible profit in feeding 75c. corn; and they believe they can realize that price for their corn crop at home. The causes of these high prices are not alone that a short corn crop in 1868 has been followed by a shorter one in 1869; we have built railroads and stimulated manufactures to such an extent that they are eating us up. Allow me to repeat and repeat, for the information and guidance of the farmers of the country, that while railroads stimulate and increase production, they stimulate and increase consumption to a much greater degree. Hence, though there may be exceptions now and then, the gradual and certain rise of all agricultural productions, I will say for the next ten years, is as sure as sunrise."

—Mr. Jerry Miles, of Fairfield, Vt., is the possessor of a cow that is *twenty-nine* years of age, and has given milk every season up to last winter.

FARMING IN VERMONT.

OUR late journey into a portion of the western part of the State of Vermont, afforded opportunity for many conversations with thrifty and substantial farmers, as well as for observations, and comparisons of practices among farmers there with those of farmers in different portions of New England. The methods of doing similar kinds of work, do not probably vary much in any of these States. The same implements are used in all the main items of farm work; ploughs and harrows of various construction; mowing machines,—in this region nearly all of the Buckeye pattern,—tedders, horse rakes, &c. Some of the smaller implements, such as weeders of various kinds, drilling machines and seed sowers, are not yet so common as would be profitable among these people. The horse rakes we saw were not generally so strong and perfect as they should be, and especially where such large crops of hay are to be harvested. None of them seemed capable of performing the work so rapidly or so well as do several of other patterns. The small, hand rake was not observed in any field we visited, nor did there seem much need of it. The drag, or "loafer" rake, was common.

The mode of curing hay in all the region under observation, was somewhat different from that practiced in Massachusetts. It is cut by a machine soon after the dew has dried off in the morning, and left in the condition in which it falls, until ten or eleven o'clock next day; it is then raked into windrows by horse power, and "hauled," as they term it, from immediately after dinner, until evening. Most of that which we saw was nearly or quite ripe, and when taken to the barn had not that full, delicious fragrance which grass cut in the blossom and cured in the cock gives off. There were occasional fields with hay in the cock, and a few cases where hay and wheat were covered with caps.

In the town of Whiting, we visited the farm of **Francis D. Douglas**, Esq., and went mostly over it, but by *horse power!* It contains 375 acres, and was purchased for $15,000. About 75 acres are in forest. Most of the remainder is bounded on the east by Otter Creek, and stretching away west,—after leaving the intervale,—terminates in pleasant undulations of upland and slope that overlook much of the adjacent country. Seven or eight men, with teams, were engaged in haying, and although there were no less than *eleven* barns on the farm, some fifty to a hundred tons of hay would be stacked in the field. The proprietor estimated his crop this year at two hundred and twenty-five tons,—and a surplus left over last spring would bring up the amount at the close of the haying season to 250 tons. Besides the hay crop, he had fields of oats covering a large number of acres, and, if we recollect right, several acres of wheat. Winters 100 head of stock; raises horses, and had in the pasture one of the finest four year old colts we have recently seen. The family was making 100 pounds of butter per week, together with some cheese. The crop of oats last year, amounting to some ten or twelve hundred bushels, was sold for nearly seventy-five cents per bushel.

As we passed over the farm, various improvements were pointed out, and among them some examples in draining. Nearly all the soil in this region has a large per centage of clay, so that, fertile as it generally is, some spots are nearly barren in the midst of this fertility, or at most produce coarse and harsh water grasses. These places were noticeable in the midst of many a rich and extended field. In most cases, these spots were narrow and could be reclaimed by a single line of tile. There are several reasons why these places should be made fertile. They not only mar the beauty of the surrounding field, but there is so much waste land that may be cheaply made productive, and its loss makes a necessity for reclaiming other and perhaps more distant places.

Mr. D. spoke of the number of barns on his farm, stating that he found them there when he purchased, some four years ago. He thought it not economical to have so many moderate sized buildings scattered over the farm.

This is the practice, however, throughout the region. A commodious carriage house, with a horse stable in the rear, is usually the first building near the dwelling house; then one or more small barns, and from four to eight or ten more scattered about according to the size and fertility of the farm.

This plan has always seemed to us a mistaken one; as lacking economy in the first outlay; as inconvenient and expensive in tending stock in the winter, separated as it is into half a dozen different parcels; expensive in keeping so many buildings in repair, especially their roofs, and as lacking the warmth for the stock which a large and compact barn would afford.

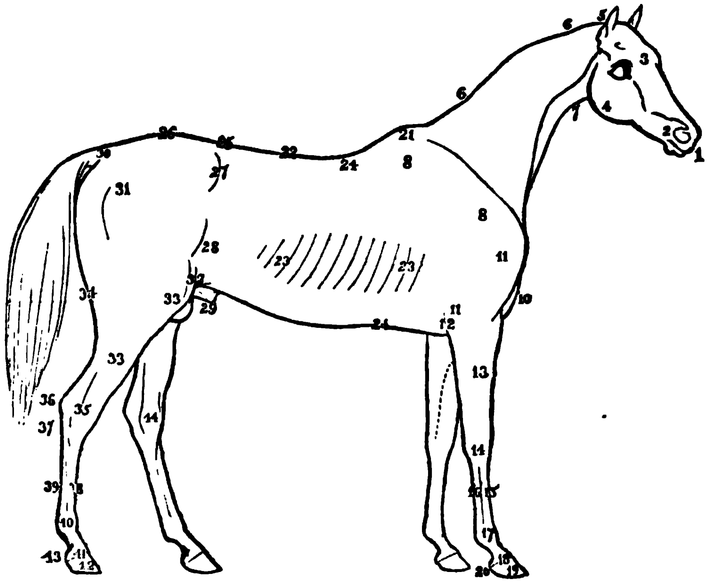
What progress would a cotton or woolen or, indeed, any other manufacturer, make under such circumstances? The true way in farming, as in all other business, is to have the work under constant observation, in the most convenient and compact form possible; the implements and machines of the farm kept where they can be seen and reached at once; the stock brought as near together as it can be, and be comfortable, in clean and well ventilated stalls; or if young and wintered in the yard, with economical places for feeding, and suitable sheds to go under in stormy weather; and the fodder as near at hand, and as easily to be got at as circumstances will allow Every thing, then, will be daily under the master's eye. He will see that the cattle are properly fed and cleaned; that they are regularly watered; that vermin do not make a descent upon them and eat them up bodily; that the young cattle have a fair chance and are not robbed of their food or hooked about by old and ugly ones. Under such circumstances, the manure will receive proper attention, and when sledding is good may be more easily taken to the fields than from dozens of frozen heaps at half a dozen barns.

From our stand point, the practice to which we advert, and now so common in Western Vermont, seems to us greatly lacking in convenience and economy, to say the least. Never having, however, managed a farm under such circumstances, we may be mistaken, and if so, shall be glad to have some friends there, show us in what respects.

In moral and intellectual qualities, it would be difficult to find a people, anywhere, occupying a higher position than the families into which we went. The newspaper, and among them the FARMER, was upon every table. Books, of a high order too, were common. and there was evidence among all of the exercise of a sound judgment and scrutinizing observation. Their soil and climate are all that could be desired; and they would be lacking in duty if they did not manifest their gratitude *in a life of good works.*

A CURE FOR BLOAT OR HOVEN.—Mr. John Hodges of Rockdale, Crawford County, Pa., communicates the following to the New York Farmers' Club:—I saw in my journal this morning that twenty cows had recently died at or near Davenport, Iowa, by being bloated from eating clover. and I hasten to inform you of an infallible cure, if applied fifteen minutes before the animal would otherwise die:—Take half a pint of salt, and cover it with water, and lay it on the animal's back over the kidneys, and have the skin thorougly impregnated with the brine, particularly where the paunch adheres to the pleura, on the left side, just back of the last long rib. I have followed the cattle business for more than twenty years, and I learned this from a brother drover. I once turned a drove of cattle into flush feed on the Susquehanna, on a rainy evening; a little after sunset a very fine young ox came to me with his tongue out as far as he could get it, breathing so that he might be be heard twenty rods or more. I sent my boy into the house for a tin cup half full of salt, covered with water. The old Dutchman said I might calculate to take his hide off in the morning. I told him I should do no such thing. He said he would die in less than one hour; that there had more than a dozen died on his farm just so, and never one cured. He was so bad I attempted to stab him, but did not and said I would wait five minutes to see if the brine would cure. In less than ten minutes his tongue was in his mouth, and he was chewing his cud before nine o'clock."

TO RELIEVE CHOKED CATTLE.—Having lost a heifer by choking with a turnip, and having had one choked since for which I found relief, I send you my remedy for publication: Get eight feet of telegraph wire, double in the middle, and twist it together so as to leave a loop in it. Take the creature by the horns and run the loop end of the wire down its throat and pull it out, and the turnip will be pushed down or pulled up in its mouth and give instant relief.—*Country Gentleman.*



POINTS OF THE HORSE.

HEAD.

1. Muzzle.
2. Nostril.
3. Forehead.
4 Jaw.
5. Poll.

NECK.

6. 6. Crest.
7. Thropple or windpipe.

FORE QUARTER.

8. 8. Shoulder-blade.
9. Point of shoulder.
10. Bosom or breast.
11. 11 True-arm.
12. Elbow.
13. Forearm (arm.)
14. Knee.
15. Cannon-bone.
16 Back sinew.
17. Fetlock or pastern-joint.
18. Coronet.
19. Hoof or foot.
20. Heel.

BODY OR MIDDLEPIECE.

21. Withers.
22. Back.
23. 23. Ribs (forming together the barrel or chest.)
24. 24. The circumference of the chest at this point, called the girth.
25 The loins.
26 The croup.
27. The hip.
28 The flank.
29. The sheath.
30. The root of the dock or tail.

THE HIND QUARTER.

31. The hip joint, round, or whirlbone.
32 The stifle-joint.
33. 33 Lower thigh or gaskin.
34. The quarters.
35. The hock.
36 The point of the hock.
37. The curb place.
38. The cannon-bone.
39. The back sinew.
40. Pastern or fetlock-joint.
41 Coronet.
42 Foot or hoof.
43. Heel.
44. Spavin-place.

In connection with the above illustration and enumeration of the points of the horse from "The Horse in the Stable and the Field," by Stonehenge, McClure and Harvey, published by Porter & Coates, Philadelphia, we make a few extracts from the remarks of the editor on these points. We are aware that it is seldom that extracts from a carefully written essay do the author justice, as the parts omitted may be necessary to a just appreciation of that which is copied. But on the principle that "half a loaf is better than no bread," we think the following will be acceptable to all who are interested in the horse:—

THE HEAD.—Without a wide forehead (which part marks the seat of the brain) you cannot expect a full development of those faculties known as courage, tractability, good temper, &c. The size of the muzzle is partly regarded as an element of beauty, and partly as a sign of high breeding. Hence, in the cart-horse, a coarse jaw and thick muzzle are not regarded. A large and patent nostril cannot be dispensed with in horses intended for fast work, and should be desired even in the cart-horse, for in drawing heavy loads on a hot day, his breathing may be rendered almost as laborious as that of the highly-tasked race horse or hunter. So also with the jaw, if there is not ample width between the two sides for the development and play of the larynx and windpipe, the wind is sure to be affected, and in addition, the head cannot be nicely bent on the neck. * * * The eye is to be examined with a twofold purpose, firstly, as an index of the temper, the nature of which is marked by the expression of this organ; and secondly of its continuing healthy. A full and clear eye, with soft, gazelle-like expression, is scarcely ever associated with a bad temper, and will most frequently continue sound, if the management of the horse to which it belongs is proper in itself. The ear should be of medium size, not too small, nor too large, nor should it be lopped, though many good lop-eared horses have been known, and some very superior breeds, like that of the celebrated Melbourne, are notorious for this defect.

The Neck should be of moderate length, all beyond a certain dimension being waste, and even a moderate-sized head at the end of an extremely long lever being too much for the muscle to support. It should come out full and muscular, with a sweep between the withers and the bosom, and should gradually diminish till it runs into the head, with an elegant bend just behind the ear. A very narrow throat suddenly bent at the upper part, marked as the thropple, is apt to be connected with roaring, and on that account is objected to by horsemen.

In the Fore-quarters, there are several points to be attentively examined, and among these, the shoulder is regarded as of most consequence, when the horse under consideration is intended for the saddle. It is evident that, unless there is length of the blade, and also of the true arm, there cannot be a full surface for the attachment and play of the muscles, nor can there be the same amount of spring to take off the jar which follows each footfall. The straighter the angle formed by the long axis of each of these bones, the less spring there will be. So, also, if the angle is not sufficient, the muscles of the shoulder-blade will not thrust forward the true arm, nor will the latter be sufficiently clothed with muscles (without being loaded) to act on the fore-arm, commonly known by the horseman as the arm Hence it is found, that with an upright shoulder, not only is the stride in all the paces short and the action stumpy, but there is not that elastic movement which enables the horse to carry his body along rapily and evenly, without rising alternately behind and before, and thereby jarring himself or his rider. On the other hand, the upright shoulder, loaded with a thick mass of muscles, is useful in the cart-horse, and to a certain extent also, in the carriage-horse, in both of which the pressure of the collar requires a steady and comparatively motionless surface to bear it. * * * The point of the shoulder should be well developed, but not showing any rough protuberances, which are equally objectionable with a flat or ill-developed point. The length of the true arm is mainly dependent upon that of the blade; but sometimes, when this is oblique enough, the true arm is short and upright, and the elbow stands under, or only a little behind the shoulder point. This is a very faulty conformation, and is seldom attended with good action. The chief defect in the elbow is seen when it turns inwards, and rubs so closely against the ribs that the finger can hardly be insinuated between them and it. Here the elbow is said to be tied or confined, and the horse is very apt to turn his toes out; while the opposite formation is indicated by turned-in, or "pigeon" toes, and turn-out elbows, frequently accompanying long-standing rheumatism of the shoulders. A long and muscular fore-arm is a sure accompaniment of strong and sweeping action, and should be carefully prized; in other respects there is little to be noted here. Next comes the knee, which should be broad, and when looked at from the front should be much wider than the limb above and below. It should taper off backwards to a comparatively thin edge, and should have a good development of the pisiform bone, which projects backwards at its upper part. The leg, immediately below the knee, should be as large as any other part, and not "tied in" there, which indicates a weakness of this part. A bending of the knee backwards is called a "calf-knee," and is not objected to in cart-horses, in which it is by no means uncommon; but it is very apt to lead to strains of this joint in the race horse or hunter. A knee naturally bending somewhat forward is much preferred by good judges, though, when it is the result of over-work, it is almost equally to be avoided with the calf-knee. Flat, and at the same time large, cannon-bones, without gumminess, are of great importance, and if attended with a full-sized suspensory ligament, and with strong, clean, and free back sinews, the leg is to be considered faultless. The fetlock-joint should be of good size and clean, whilst the pasterns should form an angle with the ground, of between forty-five and sixty degrees. Lastly, the foot should be well formed; but the construction of this part being hereafter more fully described, I shall omit its consideration here.

In the Middlepiece the withers come first under notice. It is usual to desire them high and thin, but they are very commonly too much developed, and if the bony processes stand up like the edge of a razor, without muscle in them, they are to be regarded as objectionable rather than otherwise. * * * The volume of the chest is the measure not only of the capacity of the lungs, but of that of the large organs of digestion. Hence, unless there is a middlepiece of proper size, the wind is seldom good, and the stamina of the individual will scarcely ever be sufficient to bear hard work. * * * The capacity of the lungs is marked by the size of the chest at the girth; but the stamina will depend upon the depth of the back ribs, which should be especially attended to.

A short Back, with plenty of ground covered nevertheless, is the desideratum of every practical horseman. Unless the measurement from the shoulder point to the back of the quarters is somewhat greater than the height at the withers, the action is confined, especially in the gallop, for the hind legs cannot be brought sufficiently forward on account of the interference of the fore-quarter; and, indeed, from the want of play in the back, they are generally too much crippled in that respect. * * * Next to these points in the middlepiece it is important to pay attention to the upper line of the back, which should bend down a little behind the withers, and then swell out very gently to the junction with the loins, which can hardly be too wide and muscular. * * *

In examining the Hind-quarters, so much depends upon the breed, and the purposes to which the animal is to be put, that only a few general remarks can be given. * * * Muscular quarters and gaskins are desirable in all breeds; for without strong propellers, no kind of work to which the horse is put can be duly performed. The judge of a horse generally likes to look at the quarters behind, so as to get a good view of their volume, and unless they come close together, and leave no hollow below the arms, he suspects that there is a want of constitution, and rejects the animal on that account. But not only are muscles of full size required, but there must be strong joints to bear the strain which these exert, and one of the most important of all the points of the horse is the hock. This should be of good size, but clean and flat, without any gumminess or thoroughpins, and with a good clean point standing clear of the rest of the joint; the "curby place" and the situation of spavin should be free from enlargement; but to detect these diseases a considerable amount of practice is required. Lastly, the hocks should be well let down, which depends upon the length of the thigh, and insures a short cannon-bone. The pasters and feet should be formed in correspondence with those of the fore extremity, to which I have already alluded.

MAINE AGRICULTURAL COLLEGE.

This institution, which has one class of fifteen students, and has already received twenty applications for admission to the next class, was located at Orono on condition that the town would give a suitable farm, and that other friends of the institution and of the location would give the sum of $15 000 towards the buildings. Orono gave $8000 and Oldtown $3000 which went to pay for the farm. The sum of $15 000 was subscribed by the citizens of Bangor and vicinity. In making out the deed of gift of the farm, the people of Orono were shrewd enough to do it in such a way that if the location of the college should ever be changed, the land and buildings should revert to the town. Upwards of $40,000 have been expended on the farm, some $30,000 of which has come directly from the State treasury. Last winter, however, in voting an additional appropriation of $28 000, the legislature made its payment conditional on the transfer of the title to the college farm from the town to the State. This the Oronoites have refused to do at three several town meetings.

Hence the $28 000 remains in the State treasury, and, as we learn by the *Maine Farmer*, "all the work of the trustees, all plans for the enlargement and greater efficiency of the college, all building operations are completely suspended."

The editor of the *Farmer* expresses the hope that an institution to which the State has given nearly sixty thousand dollars of the people's money is not long to be paralyzed by the inconsiderate action of one town.

GOVERNMENT AND LABOR.

We presume that old Solomon is not alone in the opinion that human affairs move in cycles, and that they repeat themselves continuously. Hence what is regarded as new, is only that which hath been of old time, and that which is to be hath already been. Still it is not pleasant to apply this theory to what we regard as the progress of the race, in government and the social relations of men, and to think that our present form of government and our ideas of the equal rights of man are to be superseded by the effete land owning aristocracy that once flourished in the old world, on the one hand, and by the landless, servile, and dependent laboring class that grew up under that system, on the other hand. And yet it may be possible that there is a stronger tendency in this direction than most of us are aware of; that in fact that which hath been is soon again to be.

Already there is one paper published in the city of New York that boldly advocates the adoption of an imperial government, as a remedy for the alleged evils of our present form.

And to remedy the complaints of farmers and planters about the unreliability and high cost of help, the *Turf, Field and Farm*, of the same city, recommends the introduction of the Chinese, and says:—

> Our facilities for the general diffusion of agricultural knowledge through the numerous journals devoted to that interest in every State, exceed that of any country in the world, and no nation is so well provided with machinery and implements; for such is the mechanical genius of our people that they can invent anything "to order;" and yet how poorly our agriculture compares with that of Flanders, of Scotland, or England! The fact is, the great check upon our progress in this direction is the want both in the planting and farming States of a cheap, reliable labor from a class of people *who, content, like the Asiatics, to remain in the position assigned them by Providence, have no restless aspirations to rise above it, and from day-laborers become land owners.*

These ideas of government and of the laboring classes are perfectly harmonious. They were realized under the feudal system, and the one cannot probably be revived without the other. Until an imperial government is established, we doubt whether the immense national benefits can be secured which the editor believes will flow from the introduction of the Chinese, who, he says, are excelled by no people on the earth for frugality, docility, patent industry and aptness.

It is true that these Chinese may be content with their lot at home, where it is impossible for them to improve that lot, but how shall this "content to remain in the position assigned them by Providence" be enforced on them and on their descendants here? How shall these "restless aspirations" be kept quiet? If, as the writer of the paragraph quoted above says in another connection, "there is something in our construction that will not be content with the good that the gods provide," how are we to nip the budding ambition that may start up in these day-laborers to become land owners? To make the question still more puzzling to us, the writer says, "in truth we believe if man were made an archangel he would not lose all aspiration." Do tell us, then, how we are to banish it from the breasts of our "cheap and reliable labor," whether Asiatic or African.

The wisdom of the agricultural press of the great city of New York, which has undertaken "to win over our sluggish farm friends everywhere to a wiser economy, to a larger thrift, and to a better practice," is, we presume, competent to the solution of this as of all other problems that may occur to our "sluggish" minds.

Mowing with a Camel.—Being in the Park in New York, the other day, we saw,—what perhaps few of our readers have ever seen—a camel mowing! Here one of these humped animals was harnessed to a lawn mower, which he drew with great steadiness and apparent ease. The harness resembled a breast-plate for a horse, with the plate resting on his neck in front of the hump on his shoulders, with the shoulder strap under his body, behind his forelegs. He threw his weight into it as the ox does into the yoke. He was not a very large sized camel, but would weigh perhaps nine hundred pounds. He had mowed an acre or more, cutting the grass very smoothly. There was in the immediate vicinity a flock of beautiful Cotswold sheep under the care of an old Scotchman and two dogs; thus indicating to what use the lawn grass would be put in the coming winter. There were some two hundred of these fine sheep in the flock. There were also a herd of deer and elk in an enclosure in the Park, which with the sheep and camels have to be fed with hay in the winter.

Abortion in Cows.—A writer in the *Western Farmer* advances the theory that this difficulty, which is becoming a formidable one with dairymen in many sections, is owing to a want of phosphates in the food and water consumed by the animal. The avidity with which laying hens eat egg shells and fragments of bones, while at other times they do not eat them, and roosters never, and the fact that during gestation cows eat bones and boards, are cited in confirmation of the correctness this theory. It is also said that this information is being sold at a high price as a receipt for a cure of abortion, and that Mr. Lyman B. Sanford of Cherry Flats, N. Y., had used it with perfect success. For several years his cows had been in the habit of calving prematurely; one year fourteen out of thirty-five, miscarried between the months of January and March. Another gentleman had gathered bones and pounded them fine, and when the cows were salted, put as much bone dust as salt together, and salted once a week. He advises keeping the bone dust from the air, until used, as it will otherwise lose a portion of its phosphorus.

EFFECTS OF DEEP PLOUGHING.

If you or some of your correspondents will answer the following questions you will greatly oblige one of the constant readers of your paper. I will give the nature of the soil experimented upon, that you may be able to answer understandingly.

I have three-fourths of an acre of light, gravelly loam, that has had a coat of manure ploughed into it every spring for four years. Last season it produced a fair crop of garden vegetables.

Last fall, Horace Greeley lectured before the Bristol County Agricultural Society, and told us an acre of land with the soil a foot deep, would produce as much as as two acres where the soil was six inches deep, and an acre of soil two feet deep, would produce as much as four acres of soil six inches deep.

I asked G. G. Godfrey, Esq., a farmer of experience and skill, how I should get a deep soil, and he told me I would have to plough deep. Last October, I ploughed it from fourteen to sixteen inches deep, using a very large plough and three yokes of heavy oxen.

This spring I have ploughed in a coat of manure, ploughing seven inches deep, and planted as last year to garden vegetables.

Will the deep ploughing be a benefit or an injury to my garden? Will the six or eight inches of yellow "free soil," or free dirt, I have ploughed up, be a benefit or an injury? Farmers here laugh at my experiment now it is done, but none of them recommend any remedy, though they all agree that it will prove a great injury.

Has any one committed the same blunder before? (if it is one.) What will be the result on this year's crop and the future usefulness of the soil? What is the best way to treat it in the future? These are questions I shall be glad to see answered.

At the end of the season will forward you the result of this year's crop, and how it compares with last season. Peter C. Thayer.

Taunton, Mass., June 25, 1869.

Remarks.—We might answer the inquiry of our correspondent, whether "deep ploughing will be a benefit or an injury to his garden in a single word; but the subject is of sufficient importance to call for some details. We plough mainly to *pulverize* the soil, in order to permit a free circulation of air and moisture, for the purpose of reducing it to powder, and to break up the joint action of pressure, and the binding effect of root fibres, which have compressed it. An old writer and a close observer says:—

"However well you may manure your land, however thoroughly you may drain it, you will never obtain the crops it is capable of yielding, unless you pulverize it. Always bear in mind that the impalpable powder is the active part of soil, and that no other portion has any direct influence upon vegetation, and you will then, at all times, be sufficiently impressed with the necessity of thorough ploughing, harrowing, &c.; indeed, you may rest assured, that, except upon some few very light sands, you cannot pulverize the soil too much."

The question then naturally arises, what is the soil? Is it the mass of earth beneath our feet, or only some portion of it, on or near the surface? We speak of the soil, and of the subsoil, and then of the sand, gravel or clay which underlies them, and nobody mistakes our meaning. This soil varies in thickness in different localities, and may be found from one inch in depth to that of several feet. It is rock highly disintegrated, in which is mingled in greater or less degree, vegetable matter. We plough this, as before stated, to reduce its particles to dust if one can, so that when moistened their nutritive properties may be available by the roots of plants.

If we plough below the dark-colored portion of earth which we call soil, we undoubtedly bring valuable properties to the surface, but they are not in a commingled condition and state of fineness to bring a crop when planted. What follows? Why that this new earth must be brought *up gradually* to the action of the sun, air and rains, when it will, in process of time, become dark-colored, and covered with plants of one kind or another. In one spot with thistles, perhaps; in another with clover; in a third with pig-weeds, and in a fourth with some of the valuable grasses; and all this without the application of manure by the hand of man. The same result may be secured more rapidly, by ploughing an inch or more deeper at each successive ploughing, adding manure freely and working the whole together by after-ploughings.

But what would be the result, if several inches of the new earth were brought up at once and mingled with the black soil? In every instance that has come under our observation, it has been the failure of the crop, unless an unusual amount of manure was employed, or the soil worked over many more times than is usual.

It is a common practice with progressive farmers to deepen the soil by *successive* ploughings, and not by turning up several inches of fresh earth at once. There are occasional exceptions to the rule, we believe, and on a garden soil that is frequently stirred through the summer so as to be well moistened, aired and warmed, a good crop may follow. The atmosphere is the great storehouse of fertilizing properties. Let the layers of the earth come in contact with it, and it will soon be covered with plants; plough these under repeatedly and a soil is prepared, which will bring any of our common crops. Do not fail to give your results.

HOURS OF LABOR ON THE FARM.

J. W. Colburn, Esq., of Springfield, Vt., has made an estimate of the hours that hired men work on a farm during the season of eight or nine months, and during the year, which shows that farm laborers do not average so many hours of work a day as are required by manufacturers and mechanics. Judge Colburn's experience in farming give his conclusions much weight, though they may be contrary to the general idea upon this subject. He commenced his first engagement as a farm laborer three days before he was ten years of age,—working "for his victuals and clothes." He continued as a farm laborer until twenty-five years old, when he took some land on shares, but was not a land owner till 35 years of age. During the last thirty years he has employed more or less men, both by the season and the year. In a letter to the New York Farmers' Club he makes the following statement:—

Many farmers hire their help for seven or eight months, from 1st April to 1st November or December. There are three of these months that fall short in the hours of labor of the other five months. Now, let us take the five months of the longest days. A man gets up in the morning after the sun rises—it is considered out of good taste to get up before the sun; he does a few chores and waits around the house until breakfast is ready, 6 A. M.; 6:30 he will be in the field ready for a day's work; at 12 he is called to dinner, and it is 1 o'clock, P. M., before he is in the field again: and at 5 he is called to his supper, and is back to his work again at 5:30; quits work at 7 P. M. All told, 11 hours. In common seasons there is not less, counting showers, than one rainy day in a week; some seasons considerably more, and it is seldom that a farmer can furnish work in rainy weather for more than to pay the board of his men; thus nearly two hours of each day in the week is stricken off, leaving a fraction above nine hours a day for these five months. The two or three months is one hour per day less, averaging, perhaps, 8¾ hours of constant work for the season of six or seven months.

When we take men by the year, which includes one-third Winter for the whole year, 1¾ hours less per day will be the average for these months, for we cannot expect to work men in snow, sleet, and rain, though the days are short; nor drive them out into the wood lot when the thermometer is 25 degrees below zero. This reduces the average day's work for the year to not over eight hours. If other farmers will go carefully into this reckoning they will find it a correct one, unless they have a better faculty to get work out of men in bad and wet weather than has your humble servant. In this locality the farmer does not get so many hours' work on an average the season through, or by the year, as is now established by the manufacturers and mechanics.

EXTRACTS AND REPLIES.

REMEDY FOR LICE ON CATTLE.

What can I use to destroy the vermin on my stock, that is safe? Many cattle, in my opinion, are injured by the use of kerosene, unguentum, and other powerful applications.

JESSE WILLICUTT.

Cummington, Mass., July, 1869.

REMARKS.—Our correspondent is correct in his opinion that cattle are injured by the use of the applications which he mentions. But it is the *injudicious* use. We have seen a cow's hide tanned on her body in spots where too much kerosene was used. The hair did not come off in the spring on those places when she shed the rest of her coat, and the skin felt as hard and dry as sole leather. It was two or three years before she got over the operation. There was too much applied. If a tablespoonful had been used by dipping the fingers in it and then rubbing every part of the skin, with the hand, the probability is that no harm would have been done, and the vermin destroyed. The same kind of treatment should be observed in the use of unguentum, or any of the pungent oils that are employed.

Dry, fine loam is an excellent remedy. The cattle themselves resort to it frequently by pawing it up and throwing it over themselves until the hair is filled with it. Ashes is good, but must be used with care. If sifted on too profusely and the cattle are then exposed to rain, a ley may be formed which will cause the hair to fall off.

All stalls where horses or cattle are kept, should be occasionally swept and then washed out with strong soap suds, or with water in which a bit of potash has been dissolved, or in which ashes has been soaked. The water will find its way into the crevices where the vermin "do most congregate," and kill them in their hiding places. It is of little use to dose the stock with remedies, so long as every dry crack in the floor, about the stancheons and in the walls, has a hungry legion in it ready to come out and eat your cows up while they are still alive. An ounce of prevention is worth a pound of cure. So runs the old adage, and it is a true one. Cleanliness is one of the cardinal virtues, and it ought to shine in most barns a great deal more than it does.

AMERICAN TENT CATERPILLAR.

Enclosed I send you something taken from a crab apple tree. Please tell us in the Weekly FARMER what it is, and what its future would have been had it not been removed?

TIMOTHY WHEELER.

Waterbury Centre, Vt., July 26, 1869.

Caterpillar's Eggs.

REMARKS.—You have sent us a nest of *Clisiocampa's* eggs. But as that is not plain English we are very much obliged to Mr. Harris for a literal translation—the tent caterpillar. These eggs are a great curiosity. How systematically they are placed upon the limb, how firmly glued, how thoroughly protected by a warm, water-proof, elastic covering! With an ordinary magnifying glass we count some twenty-five to twenty-eight rows of eggs with twelve to sixteen in a row, sufficient for a colony of 300 to 400 worms, which would have been called into activity by the same sun which expands the buds and starts forth the leaves in the spring for their sustenance. If your trees are not large these cocoons may be removed with the fingers. Where trees are large, some gardeners use a pair of shears on the end of a long pole, worked by a cord, to clip off the twig which holds the eggs. Every batch of eggs thus removed prevents a nest of caterpillars in the spring.

TREES AS SCREENS FOR PEAR ORCHARDS.

Every pear orchard should be screened from the full force of our sweeping winds. Otherwise a great deal of fruit will be blown from the trees in a premature state, while that which remains will never attain either the size or the beauty that it would if hanging quietly on sheltered boughs.

Those who have travelled in France and Belgium will remember the high stone walls that almost invariably surround the pear gardens, effecting the double purpose of weather screens and thief-guards. They will also recall the enormous size of the pears that grow in these quiet enclosures. Undoubtedly this is the most effectual mode of gaining complete protection.

In this country where labor and materials are now so high, it would be very costly to attempt to surround our pear trees with walls of masonry. In default of this a row of Norway spruces, or white pines, will serve us exceedingly well, and if these hardy evergreens are kept headed down to a height of about fifteen feet, they will gradually thicken up into a mass of green, which will not only conceal the tempting blushes of Flemish Beauties and Louise Bonnes, from the eyes of enamored depredators, but will also make a pleasant lee from summer gales, and at the same time allow the sun to shine in over the tops, bringing the light and heat so necessary for the perfect coloring and ripening of the fruit.

Perhaps in low lands it would be better to make our living wall of deciduous trees, thereby allowing the full force of the sun to lie on the ground in winter and early spring, to impart warmth and dryness to the wet soil. In such situations a row of weeping ashes is very effective, and at the same time exceedingly picturesque. This may be obtained by setting out young ash trees at distances of eight to ten feet, and when they have grown to a sufficient stature, cutting them down to a uniform height of fifteen feet, and grafting the tops with scions of the weeping ash. These take readily, and in two seasons will have thrown over a shower of long, drooping boughs, reaching to the ground, giving the effect of a cataract of living green. After the first year all shoots of the original tree should be carefully removed, otherwise they will mar the beauty of the drooping wall. I have succeeded in forming such a screen with but little labor, and it promises to be perfectly effective. AUGUSTINE SHURTLEFF.

Brookline, Mass., July 25, 1869.

REMARKS.—With the protection recommended by the writer of this valuable article, we have no doubt that pears and other fine fruits might be raised on many farms in New England which are now supposed by their owners to be too far north or too elevated for their successful cultivation. Such a screen is often equal to the removal of the garden into a climate several degrees warmer and several days earlier.

THE PALMER WORM.

Will you be so kind as to inform me if there is such a worm as the Palmer worm? and if there is, please describe it to me. E. P.

Bridgewater, Mass., July 29, 1869.

REMARKS.—In 1853 an insect something like the Canker worm made its appearance in many parts of New England. In a communication to the FARMER,—Monthly page 370,—dated July 6, 1853, Prof. Harris of Cambridge, says of the Palmer worms, "these insects which have appeared in great numbers upon fruit and forest trees, during the past month, agree in all respects with the accounts given of the Palmer worms that prevailed in many parts of New England in June, 1791." As he calls them the Palmer worm, we must answer the above inquiry in the affirmative, although it is probably true that the name has been applied to different worms. Prof. Harris said that until the insect is obtained in the winged or moth state its scientific name cannot be determined. We do not know that this has been done, but we presume that Mr. Scudder's proposed work on Butterflies will give it. We have heard nothing of the Palmer worm since 1853. At that time Prof. Harris gave the following description of it: "In its early stages, this worm, or caterpillar, though varying somewhat in color, is mostly pale green, with two slender brown lines along the top of the back, and a pale brown head. It has sixteen feet, six of which, near the head, are jointed, and end with a single claw: the others are merely fleshy protuberances without joints, the terminal pair being the longest. When fully grown, the insect measures half an inch or rather more in length, and then bears a striking resemblance to the common bud-worm of the apple tree; the back assuming, generally, a darker color, and the sides of the body being marked with black points, arranged there together on each side of every ring. Two blackish semi-circular spots or marks, may also generally be observed, at this period, on the top of the first ring. A few short hairs may be seen on the body by means of a magnifying glass. On my own trees, these insects have confined themselves mostly to the terminal leaves and buds; on others, in places where they have been numerous, they have spread over all the leaves, and have devoured the whole green substance, leaving only the net work of veins untouched. They are exceedingly active in their motions, moving either forwards or backwards at pleasure, with a kind of impatient jerking motion, which renders it difficult to hold them. When the trees are shaken, these worms drop, and hang suspended by threads, like canker worms. Whether they leave the trees in the same way, when they have finished their course,—if indeed they do leave them at this time, and where they undergo their final transformations, I have not ascertained, being prevented by other engagements from watching their further progress."

DISEASED CHERRY TREES.

I have some nice cherry trees of the Washington variety, but very few cherries. They blossom full, but when the fruit gets about the size of small peas, it drops off. The trees are of about five years' growth, and appear to be very thrifty.

LYMAN J. TOWER.

Cummington, Mass., July, 1869.

REMARKS.—Our correspondent, we suppose, is aware that the cherry trees all over New England have greatly deteriorated, within the last twenty years. We are inclined to think that this is not occasioned by a disease of the tree itself, as in the case of the "yellows" in the peach, but is the result of annual attacks upon it by insects, during its early growth in the spring. These insects are a little "saw-fly," only about one-fifth of an inch in length, and quite black.

As soon as the young shoots on the ends of the twigs, put out, and new leaves are formed, these little black slimy insects infest them in astonishing numbers, and destroy all the new growth. In attempting to get them off, the hand soon becomes glued, as it were, with a disgusting, sticky substance, with which their bodies seem to be covered.

They soon affect the tree so that the foliage on the ends of the branches, all around the tree, is curled, looks dirty, and is so to the touch. They begin to lay their eggs early in June, and finish and disappear within the space of three weeks. The eggs are deposited on the under side of the leaf. The worms, or slugs, hatch out in about fourteen days, and have twenty very short legs. The trees attacked by them are forced to throw out new leaves during the heat of the summer, at the ends of the twigs and branches that still remain alive; and this unseasonable foliage, which should not have appeared until the next spring, exhausts the vigor of the trees, and cuts off the prospect of fruit.

Sprinkling the branches with fine ashes has proved of great service in arresting the ravages of these insects.

The seeds of the plum, apple, potato, &c., will not bring the same kind of fruit that they were taken from. It is only by grafting the former, and planting the potatoes, that we get the fruit we desire.

To kill the bark louse on apple trees, scrape them, and then wash with strong soap suds.

THE BUD WORM IN APPLE TREES.

Enclosed you will find some apple tree leaves that contain a kind of maggot. Will you please to inform me through the columns of the NEW ENGLAND FARMER—which I regard as the farmer's friend—what they are called, and what will destroy them easier than to pick them off by hand? My trees are pretty well covered by them. I notice many small, slim black bugs, apparently in connection with them. JAMES POLLARD.

Ludlow, Vt., June 21, 1869.

REMARKS.—The specimens of curled and eaten leaves were duly received, with a black bug, but we could find no caterpillars. As we were not able at once to answer our correspondent's inquiries satisfactorily, we have taken some time to inquire and to hunt up the authorities on the subject. For several years we have noticed more or less of the work on our own trees of some insect in the bud and on the first leaves, but were ignorant of its name or history, nor have we been able to find any description of it in our fruit books. On consulting Mr. J. Breck and J. F. C. Hyde, of this city, we learn that this insect has never been very fully described, and until recently has not done any material damage. This year, however, it has been more numerous than ever, and it may now well claim the notice of fruit growers. The only description to which either Mr. Breck or Mr. Hyde could refer us was that in Mr. Harris' book on Insects Injurious to Vegetation. Probably Mr. Scudder will give a history of it in the volume he is now preparing on the Butterflies of New England.

Under the general term of Leaf-rollers, Mr. Harris describes two insects which prey on apple trees soon after the buds open in the spring. One "curls up and fastens together the small and tender leaves that supply them both with shelter and food; and in this way, they often do considerable damage to the trees. These caterpillars are sometimes of a pale green color, with the head and the top of the first ring brownish; and sometimes the whole body is brownish or dull flesh-red; they are rough to the touch with minute warts, each of which produces a very short hair, invisible to the naked eye. They come to their full size towards the middle of June, and then measure nearly or quite half an inch in length. After this, they line the inner surface of the curled leaves, composing their nests, with a web of silk, and are then changed to chrysalids of a dark brown color. Towards the end of June, or early in July, the chrysalis pushes itself half way out of its nest, and bursts open at the upper end, so that the moth may come out. It may be called *Loxotænia Rosaceana*, or the oblique banded moth. The fore wings of this moth are very much arched on their outer edge, and curve in the contrary direction at the tip, like a little hook or short tail. They are of a light cinnamon-brown color, crossed with little wavy darker brown lines, and with three broad oblique dark brown bands, whereof one covers the base of the wing, and is oftentimes indistinct or wanting, the second crosses the middle of the wing, and the third, which is broad on the front edge and narrow behind, is near the outer hind margin of the wing. The hind wings are ochre-yellow, with the folded part next to the body blackish. It expands one inch or a little more.

Little caterpillars of another species are sometimes found in May and June in the opening buds and among the tender leaves of the apple tree. They live singly in the buds, the leaves of which they fasten together and then devour. These caterpillars are of a pale and dull brownish color, warty and slightly downy like the foregoing kind, with the head and the top of the first ring dark, shining brown; and a dark brown spot appears through the skin on the top of the eighth ring. They generally come to their growth by the middle of June, and are changed to shining brown chrysalids within the curled leaves, in a little web of silk, wherewith their retreats are lined. The chrysalis has only one row of prickles across the rings of the back. The moths come out early in July. They very closely resemble the European *Penthina comitana*, and perhaps may be merely a variety of it. The head and thorax are dark ash-colored. The fore wings are of the same color at each end, and grayish white in the middle, mottled with dark gray; there are two small eye-like spots on each of them; one near the tip, consisting of four little black marks, placed close together in a row, on a light brown ground, the inner marks being longer than the others; the second eye-spot is near the inner hind angle, and is formed by three minute black spots, arranged in a triangle, in the middle of which there is sometimes a black dot. The hind wings are dusky brown. This moth expands from one-half to six-tenths of an inch. It may be called *Penthina oculana*, the eye-spotted Penthina. My attention was called to the depredations of this bud-moth, and of the preceding species, by John Owen, Esq., of Cambridge, by whom the moths were raised from the caterpillars, and presented to me.

It is difficult at first to conceive how such insignificant creatures can occasion so much mischief as they are found to do. This seems to arise from the number of the insects, and their mode of attack, whereby the opening foliage is checked in its growth or nipped in the bud. To pull off and crush the withered cluster of leaves containing the caterpillars or the chrysalids, is the only remedy that occurs to me. It were to be wished that some better way of putting a stop to the ravages of the leaf-rollers and bud-moths, that infest many of our fruit-trees and flowering shrubs, could be discovered."

We are not sure which of these insects troubles our correspondent, but perhaps the foregoing description from Mr. Harris' book will enable him to decide for himself.

The little black bug alluded to had probably no connection with the worms, and may be a friend. We shall be glad to hear from any one who has observed the work of these caterpillars. We hope that, like many other insects, after having had their day they will disappear.

APPLES ON A BROKEN LIMB.

I have a fine thrifty Baldwin apple tree in my orchard on which scarcely an apple can be seen, except on a limb which was nearly broken from the tree last fall in gathering the fruit. This limb hangs full of fine large apples. How do you explain this? E. A. DAVIS.

Buckland, Mass., July 30, 1869.

REMARKS.—We explain it on the same principle that we account for the same result when produced by taking out a ring of bark from a limb, or by bending and fastening down a branch. But exactly what that principle is it is not quite so easy for us to say. We are not deeply versed in the mysteries of fruit or vegetable growth. Our old fruit books say that by breaking or twisting the limb or removing a ring of bark, the sap which would otherwise have returned to the body of the tree or its roots, and have been mingled with the common stock of its fluids, is retained in the limb, which thus having more than its rightful share is enabled to set fruit, though the other portions do not, as the general stock of the sap is devoted to repairs or improvements in wood, &c., demanded by the exertions of the tree in maturing the previous crop, or in answer to other calls on its vitality.

BONES, AND CLAM AND OYSTER SHELLS.

I have had good success in making a fertilizer from bones according to Dr Nichols' receipt, as follows: Take 100 pounds of bones beaten in small fragments; pack them in alternate layers, with a compound made of 100 pounds of wood ashes, 25 pounds of lime and 12 pounds sal soda; pack in a tight cask and keep wet. The bones will be reduced in a few weeks, and should be thoroughly mixed with loam several weeks before using.

Now I would like to ask if clam and oyster shells can be made valuable by any such means, or by using vitriol, as it is used for bones? In what way may these shells be made available to the best advantage? How should ground oyster shells be used for manure? Do the phosphates abound in shells? F.

Franklin, Mass., July 29, 1869.

REMARKS.—The above inquiry was submitted to Dr. J R. Nichols, editor of the *Boston Journal of Chemistry*, and we take much pleasure, and perhaps a little pride, in publishing his brief but comprehensive reply. The Dr. says:—"Clam and oyster shells are composed mostly of *carbonate* of lime, and are therefore valueless as fertilizing agents. Bones are composed of *phosphate* of lime, the phosphoric acid being the agent so useful to crops. Clam and oyster shells cannot be dissolved in caustic alkalies, they dissolve in sulphuric acid, forming gypsum, or sulphate of lime.

"Clam and oyster shells are of no value to agriculture. They have no more effect upon crops than the dust or chips taken from the yard of the marble worker. Marble and shells are nearly identical in composition, and both are unworthy of consideration by farmers."

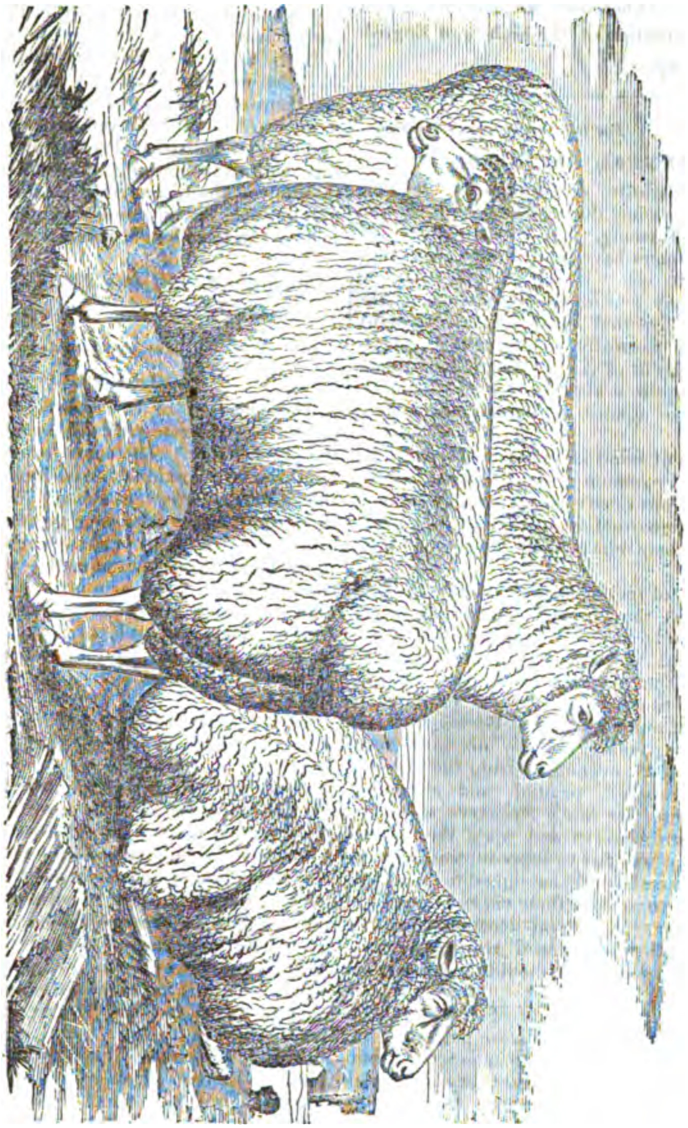
BUGGY PEAS.

Can you or any of the writers for the NEW ENGLAND FARMER inform me how to prevent bugs injuring seed peas. I have some choice kinds that I wish to save until next year. By so doing you will oblige A CONSTANT READER.

East Abington, Mass., July 28, 1869.

REMARKS.—Mr. Harris tells us in his book on "Insects Injurious to Vegetation," that while the pods are young and tender the pea beetle hacks into it, curculio fashion, and deposits an egg directly over the pea. From this egg a very small grub is hatched which makes its way into the pea by a passage so small as to be scarcely visible, and which closes up as the pea grows. Sometimes every pea in a pod will be found to contain a weevil-grub or worm. It changes to a "pupa" during the autumn, and by or before spring becomes a beetle, gnaws a hole through the thin hull of the pea, and is ready for another season's work. How much the flavor of green peas that we so much relish is owing to the large number of these little insects they contain, is a question that we are not asked to decide. We are asked how to prevent this worm or "bug" from injuring seed peas. Having taken up its residence in the pea, and the entrance-way being closed behind him, he is pretty securely enjoying his feast, and undisturbed, will consume most of the "marrow" of the pea, but he generally leaves the germ of the future sprout untouched. Hence "buggy peas" will mostly sprout and grow. We have heard that if peas are put into a bottle or jar, with about half an ounce of gum camphor to each gallon of peas and corked tight, the insect will be killed by suffocation. They are also scalded in hot water, sometimes just before planting, to effect the same object. As the insect is limited to a certain period in the spring for depositing its eggs, peas for seed are often sown later in the season, but in our hot summers late sown peas do not always succeed well. A gentleman in Rensselaer county, N. Y., however, sowed them on the tenth of June, six years in succession, and did not find an insect in them during that period.

—The live stock statistics of Ohio, just completed, show that in 1868 there were 20,085 more cattle, 319 more mules, 1,416,205 more sheep, and 356,625 more hogs than are returned for taxation in 1869, and a gain of 4,203 horses.



A GROUP OF IMPORTED COTSWOLD EWES.

In the Weekly FARMER of December 5, and in the Monthly FARMER for 1869, page 45, we gave a cut of sheep bred as Cotswolds by Mr. Corliss of Haverhill, Mass., who sold out in 1866. With that engraving as a type of the Cotswold breed, we were not entirely satisfied. The appearance of the head and of some other parts of the animal indicated a cross, more or less remote, with the Leicester or other similar sheep.

The cut which we give this week comes nearer to our ideal of pure Cotswolds. It represents some sheep imported from England by Mr. Burdett Loomis, of Connecticut. As is often the case with one's hands in a daguerreotype or photograph, the feet and legs, we think, appear too large. This fault is noticeable in many cuts of animals made from photographs. Otherwise, we consider it as a good representation of the high-bred English Cotswold sheep.

For the New England Farmer.

MENTAL LAZINESS.

Your Charlotte correspondent, "Uncle John," makes some decided hits in his article "Brains in Farming, No. 2." I believe the Vermont farmers have more brains than they are willing to use. It requires an *effort* to *think;* and any continued application of the mind in one direction seems irksome to many who possess naturally strong minds They fall into the habit of vague, sleepy, half-thinking, and acquire a kind of mental laziness, which militates against all subsequent mental culture.

This state of mind is induced, in part, by over physical exertion at some seasons of the year when crops need especial care, and should be carefully guarded against by all who desire to improve their minds, their farms, or their stock.

This state of feeling is indicated by the thin attendance at the farmers' clubs, the empty halls, when a lecture upon agriculture is announced, and the apparent indifference of farmers at the evening discussions at the county and State fairs. It was particularly noticeable at our State fair at Burlington, last fall. A programme for the discussions on each of the three evenings during the fair was carefully prepared, printed, and circulated months before the fair. Speakers were appointed to write essays and open the discussions, who, it was fair to suppose, would investigate the several subjects assigned to them, and be prepared to present their views in an interesting manner. A general discussion was to follow, by all who pleased to take a part. The plan was good, and should have been carried out to the letter.

But among the thousands of farmers from all parts of the State, who were present at the fair, *very* few found it convenient to attend these discussions; while the City Hall was packed to its utmost capacity to witness a second-rate theatrical performance, and the tent of a smooth-tongued "horse-tamer" was equally well filled.

The subject announced in the programme for discussion on the last evening, was "Manures," and the speaker to open it one of the Professors in our Agricultural College. A good house was confidently expected. Instead of a full house of interested farmers, eager to listen to a learned Professor, on an important subject, which he had, no doubt, thoroughly investigated, only about thirty, all told, were present. Late in the evening, it was announced that the Professor was unwell (?) and would not be in. I fancied, at the time, that a crowded hall awaiting the essay would have recovered the Professor, to our edification.

If the farmers of Vermont would be benefited by our Agricultural College, they must put themselves in a position to receive its instruction. Grants of land or money, stately buildings and learned Professors of Agriculture will avail nothing, if the farmers hold themselves aloof, and from pride, prejudice. indifference, or any other cause, neglect to receive the knowledge within their reach.

J. R. W.

Springfield, Vt., July 20, 1869.

For the New England Farmer.

LABOR.

The question of labor never occupied so much thought among all classes of men as at the present day. The most exalted and the humblest are anxiously considering its relations to themselves and others. That most of the attention it is receiving grows out of the selfish desire to reap in some way the greatest profit from it, does not admit of a doubt. At the same time, there are many that would be glad to bring out some equitable method whereby employer and employed could meet on common ground, and be mutually satisfied with what the one is paying and the other receiving.

I have small faith that such a panacea will ever be found, but expect that, as a rule, we are to jog on much as we have done for generations past; with perhaps this difference,—that as education becomes more generally diffused among the working classes, co-operative associations among them for carrying on their particular line of business will be more common. Aside from this, it seems quite evident that we must have men with means to employ those who have none; and that these parties must in some way come to terms with each other, by which the man of means may accomplish his plans, and the laborer obtain his necessaries of life.

It has been more difficult for some years past to harmonize the interests of the two classes than it was twenty years ago. Many reasons for this will present themselves to those who have been accustomed to observe passing events. Two or three of these I regard as the main sources of the whole of the trouble that has been experienced.

The first is, the great demand for labor. None can deny that the demand has been such that no man need be out of employment but a brief time, before having a call at a remunerative price for his work. This pressing demand for labor has led to most alarming effects upon the *quality* of common labor. I have been astonished at witnessing the want of faithfulness, especially in those who are employed in any of the numerous public works in our cities. Their great study seems to be to accomplish as little as possible during working hours. This state of things is influencing all departments of labor. The farmer comes in for his share of the evil. His man knows he can go to the city and find *work* to do, and that *there* he can shirk his task, but while under the farmer's eye he has not so good a chance. Hence he becomes uneasy, and off he goes, regardless of all engagements, or any damage he may cause his employer. The truth of these statements, I presume, will not be controverted.

Another cause of the trouble is, the general extravagance or want of economy among all classes of our people—employer and employed. The business man, the farmer, the mechanic, and in fact all the professional classes, so called, find their expenses large, and the calls upon them for money from every side increasing. At the same time, every laboring man finds himself beset with the same difficulty. The consequence of this condition of things, is an effort on the part of those who employ labor to bring about a reduction of price; and those who labor, to gain an increase of price for their labor.

Another cause of disquietude is found in the unceasing agitation of the question, as to the number of hours that shall constitute a day. So long as labor is in such demand as it is at present and has been for some years past, so long may we be sure that this agitation will be continued. Much may be said in favor of the abridgment of labor to *eight* hours for a day's work. The same arguments may with like propriety be urged for six hours, or even less, as the legal time required. I hardly think that many who have made man's capacity for labor a study, will say that, in most occupations in the open air, ten hours is the limit beyond which he cannot labor with safety to his physical system. About the only reason of any force given for changes in this respect is, that, by reducing the hours of physical exertion, we have more time to devote to mental culture and the like. This is true. But how far this increased leisure time is thus used is somewhat problematical. However, we will not discuss the aggregate gain or loss, either to the employer or employed; for after all, it will remain true, that *necessity knows no law*. So long as human nature is as we know it to be, so long will laws enacted to regulate this matter of labor (where adults are the parties) be comparatively powerless. Demand and supply are inexorable in respect to labor, as to all other commodities. You cannot kick the beam always in one direction. It will inevitably recoil sooner or later, and swing as far from the centre in the opposite direction as it has been forced from the true balance. It is, therefore, useless and worse than useless for guilds, trades' unions and all other organizations to attempt to *dictate* who, and how many shall learn a particular business, how long they shall work, or the rate of wages they are to receive for their labor. Combinations of this kind are sure to drive employers into the same tactics, and the time for their action will be when labor can least withstand it, viz., when business is dull and labor plenty. It is well for both parties to view this question dispassionately, and with a wise regard to all the exigencies of business and of life.

So far as farm labor is involved in this question, I have never had any misgivings but that the farmer would ever be able to find labor, such as he requires, at just and equitable prices. As to the number of hours he wishes them to work, that can in all cases be amicably arranged. If you deal with every man who comes to you for work as you would wish to be dealt with, all trouble can be avoided, except in a very few cases of *very* bad men. If I tell a man before I employ him how I work my men, and if any *extra time* required is to be paid for, pro rata, or any other condition, and he engages to work knowing *all* the circumstances, you need not generally fear having any trouble with him. But hire a man in a hap-hazard manner, without his knowing what to expect, and if you get on without trouble you will be more fortunate than most men are.

Therefore, I do not think it is worth while for the farmers of New England to be much worried about the labor question. So far as they are concerned, if they deal fairly with their men at the *time of employing* them, and adhere to the conditions stipulated all through the term of service, they will find the question of labor peacefully solved, as far as they are concerned. K. O.

July 23, 1869.

For the New England Farmer.

TIME TO CUT GRASS.

Much has been said of late on this important subject, all writers agreeing that grass has usually been cut too late. This is undoubtedly true. At the same time, is there not danger of our going to the other extreme, under the pressure of so much influence on one side?

The question is, what is the proper time to cut grass, in order to secure it in its best condition?

There seems to be three stages in the growth of the grasses, as of most (perhaps all) annual plants. The first is before the juices, the sugar and starch become matured. The second is after the plant has taken up all the elements required to constitute a perfect plant, and to supply in full all the substances which go to form the nutritive qualities of the grass, with the exception, perhaps, of some of the mineral properties required in the perfection of the seed, but while the "gum" is still held in a state of solution. The third is after these juices have commenced turning to woody fibre; the stiffening process required to give the plant strength to fill up the heavy head as its blossoms change to seed. Now the second of these stages seems to be the one in which the hay should be secured.

It is then in a condition in which the animal can best obtain the nutritive properties contained in the carbon of the plant; and, although the increase in *bulk* of the crop of hay from a given field, which has passed to the third stage, will be great, yet it is doubtful whether the increase in weight continues after the "woodening" process commences. Nearly as long as the *weight* of the *hay* is increasing, I think the quality of the grass is improving. The quality of a pound of hay cut when immature cannot be equal to a pound cut when in the next stage. We see an illustration of this in the cider apples, which, when ground green, produce an article vastly inferior to that made from ripe fruit. It is doubtful to me whether grass cut in the proper time is any better for any steaming process.

One great advantage in cutting grass early is in the quick growth of the rowen, which, if not heavy enough for cutting, protects the roots of the grass from the scorching sun, which sometimes produces such sad havoc with the roots of our redtop; the death of which is followed by a coming in of the wiry, indigestible June grass. Clover, cut early, will stay longer and do better on a field than when cut late.

But when is the *very best* time to cut grass? Has the first stage passed before blossoming? Is there any better time to cut grass, in consideration of quality, than just as it gets into full blossom?

It is rather late to discuss this question, but we can reflect through the winter, and act in summer. If a given field cut in the first of blossoming, will give as much weight of hay; if a ton of the hay will produce more strength, more meat, and more milk; if a gallon of the milk will give more butter; if the animal obtains more material to produce animal heat; if the manure left is better; if the animal saves labor in masticating and digesting the hay, which helps it to retain flesh otherwise worn off, and is healthier and better in every way, while our fields are less exhausted of the inorganic elements of fertility, and the roots better preserved from year to year—if all these advantages are to be gained by cutting at that, or at any other particular time in its growth, rather than to cut later, it is important that the subject receives due consideration. F.

Franklin, Mass., August, 1869.

Remarks.—When agricultural writers get hold of any subject in earnest we are always afraid of the "other extreme." All farmers appreciate a deep soil, but let the writers take up that topic and before they lay it down a furrow twenty inches deep looks shallow—on paper. A wet, heavy soil is a sore annoyance to those who plough the land and hoe the crop, but the advocates of thorough drainage can find no stopping place short of pipe-laying every acre of our farms. Whenever, therefore, we get the steam up, and the machine under full headway, it is well to have the brakemen at their posts.

And why is not "after haying" an appropriate time to discuss any question connected with the subject of cutting grass? The old adage of "striking while the iron is hot," is as applicable to the thoughts of the farmer as to the iron of the blacksmith. In urging farmers to publish the results of their experience "in season and out of season," one of our correspondents added "but, perhaps, better out of season than in." Something to think of there.

For the New England Farmer.

RECREATION FOR FARMERS.

"Humph!" I hear some farmers say, "what does he mean by recreation for farmers?" I will try to tell you what I mean. At the present day it is found that all classes and conditions of men are greatly advantaged by an occasional relaxation from their daily round of duty, whatever its name or nature. None seem to be exempt from this law of our being. None can ignore it without serious loss to person and purse.

The loss to person grows out of the fact that we cannot continue one set of muscles in work, to the neglect of others, without sooner or later overworking the one and impairing or enervating the other. Persisting in this course tends to deteriorate the whole system. This is in all probability less true of farmers than of people in most other occupations. Their necessary labor brings about all their muscular system into use. The extent of the use in their case is just where the evil comes in. Unceasing toil tells upon them to such an extent as to bring on premature old age. We see them bowed over in what should be the prime of life. They lose their buoyancy and elasticity of mind; they become taciturn in their homes. A sombre sadness seems to pervade all around. The wife is too often *overworked*, and partakes of the same spirit. The children, growing up in such an atmosphere, lose interest in home,—if they ever had any interest in it,—and look forward with longing eyes to the time when they can escape to the city, the west or the sea. Too much of the emigration from our New England farms has its cause just here. I know of individual cases in which this is true. The homes are not pleasant to them by reason of unceasing work, and the want of cheerfulness in the family.

The remedy, I think, in a measure, is to be found in farmers finding out that they can accomplish more, year by year, if they devote a portion of their time to recuperate their powers, by relaxation. A case in point occurs to me.

A cousin of my father went from Rhode Island, when about thirty years of age to Madison, N. Y. He came back to visit the old place some three or four times before he was fifty years old. After that his visits became more frequent, so that he felt before he died that he must come about every season. He told me he could spend from three to five weeks from home and *gain* double the amount of time before the year expired, in consequence of the new energy with which he could enter upon everything he had in hand. He felt happy and joyful and *wanting to sing* all the time. He was seventy-nine years old when he made his last visit. He was preparing for another the following summer, but sickened and died. He would either leave in the spring as soon as the crops were in the ground, or after his hay and small grain harvest was over.

What was true of this man is true of all others, to a greater or less extent. After a season of relaxation we bring new energy into all we have to do. Work is done with a will. More of cheerfulness accompanies it. Disappointments fail to depress as formerly. Old things have passed away. The future wears a new aspect. "We have renewed our youth as the eagle."

I am aware that most farmers will say "this is all very well; but we cannot possibly bring it around." Just here is where the trouble lies, I am ready to admit. At the same time I would urge you to seek for some way to accomplish it. Take your wife into your council, and also the children. You will find that they will enter into a solution of the difficulties with a will. Your combined wisdom will be sure to triumph in the end, because your *interest* is involved in it. When once the matter has been put to the test, no fear of it ever being dropped. Much of discontent and seeming hardship will disappear. Try it.

July 29, 1869. K. O.

For the New England Farmer.

HAY-MAKING.

Who shall decide when doctors disagree? is a question seldom answered, though often propounded. I was led to this thought on looking over a paper read by S. Edwards Todd, before the American Institute Farmers' Club in New York city, on the 14th of July.

Mr. Todd is very decided in his views as to the best mode of curing hay, and also in his ability to *satisfy all intelligent persons that he is correct.* Now I do not lay claim to a very large degree of intelligence, but I do claim the privilege of dissenting from some of his views. He tells us that hay is necessarily injured by *heating* in the mow and stack, and just as much so as grain is by heating in the bin. Mr. Todd emphatically declares that this is so; and he goes on to prove it by *assuming* that hay that is allowed to sweat and heat, must be mow-burnt, musty, dusty, and mouldy; and, as a consequence, not as good as well-cured hay. If it is *true* that mow-sweated hay is as a general thing made musty and dusty by simply heating, his position is tenable. But I think he is mistaken in this assumption.

I have repeatedly put hay in the stack and mow when it was scarcely wilted. It was cut, as I always try to have hay cut, when in full blossom. I will mention one or two instances. When a young man, my father left me in charge of haying for a few days. The day he was expected home, I had about six tons of hay cut in the morning, as it was a bright one, but without dew. Towards noon the wind came from the northeast, it clouded up, and there was every prospect of a storm. I was in a quandary, but seeing an old gentleman of the neighborhood coming up the road, I concluded to get his opinion as to what I had best do with the hay. He asked me if there was any dew on it when cut. I told him no, and said that it had been spread as fast as it was cut. Being a Quaker, he replied, "Thee better stack it then; I had rather have a pound of sap than an ounce of water." I followed his advice, but on my father's return, I found it was much to his dissatisfaction. The result was that the heat in that stack was very great, and I feared it was ruined. During the season my father often referred to it as one of my boyish freaks. Our fears, however, were happily dispelled by finding the hay all right when it was fed out. My father pronounced it the best hay he had, and from that time on, never failed to secure or put up his hay as soon as it was thoroughly dry from all moisture.

I do not know as I understand Mr. Todd when he tells us that the process of making hay consists in evaporating the moisture from the *juices* of the grass. The idea appears to be that we are to do this to the extent that we expel the juices from fruit, or at least that it is not safe to leave the *sap* in the hay at all.

I once put twenty tons of hay on a mow, by hauling it in as the teams came to the house noon and night. It was usual on unloading to find the mow quite hot, and as the hay neared the rafters, on filling up, the moisture gathered upon them and dropped down upon the hay. To obviate any damage from this dripping, I had some straw spread over the hay to receive it. This mow of hay was fed out in the spring of the year, when cows were coming in, and to the sheep with lambs.

There was no *smoke*, no *mould*, no *dust*. The stock fed on it did first rate. It was not fed to *teams*, as we thought it would be too much like grass. I presume that a great gain is to be relied upon in feeding such hay to milch cows, over the hay that is more thoroughly dried.

I am acquainted with a gentleman who has for many years put all his hay into the barn the day it is cut, and I am sure he has the sweetest and best *looking* hay of any I see elsewhere. I am satisfied that it would be economy any way for hay to be cut when *dry* and housed as soon as possible after it wilts.

A method of dealing with clover that I have practiced with much satisfaction, is to get it thoroughly dry from *water*, and stack or mow it with straw or old hay. It will come out very nice and the stock will eat the straw in some cases as well as the clover. K. O.

July 20, 1869.

For the New England Farmer.

BUCKWHEAT STRAW.

A correspondent in your issue of July 3d, asks what shall be done with buckwheat straw? This is a question worthy of consideration, as many acres are devoted to this crop, or to one very similar, that is, India wheat. In Orleans county, from reports of 718 farms, in 1867, we learn that 600 acres were in these grains, and I venture to say that one-half of the straw was thrown into a pile outside the barn door, after threshing, to rot. Such piles sometimes remain year after year, and are not applied as manure to the fields until rotted to a small bulk. There are several reasons for this method:—

1. The stalks are very juicy, like potato vines, and will heat and mould if piled away in large quantities in the barn. 2. Then the leaves all break off in threshing, so only stalks are left to save, which make the poorest fodder. 3. The farmers keep the straw separate from their manure yards, because the scattering grains will live through the winter and come up wherever the manure is applied, and in this way get mixed with every crop 4. There is a belief that for bedding it is very injurious, causing sores upon the animals that lay on it, especially hogs.

In answer to the question, What shall be done with it? I would state that in 1867 and 1868, I scattered each year two or three tons of India wheat straw upon the grass in the field, in the fall, and I know it increased the yield of grass for hay the following season. It is a good mulch, protecting the plants in winter and retaining moisture in summer. The seeds do not grow on sod; the straw is not in the way of the scythe or hand rake after being pressed by snow all winter, but a horse rake would gather some of it.

This year, as soon as haying is done, I intend to cart out all old straw, and the manure made at the stable through the summer, and spread it on the mown fields. I consider it better to let the straw rot on the fields than about the barns as it usually lays, yet I acknowledge that the better way might be to rot it in a well-built compost heap. Z. E. J.

Irasburg, Vt., July 6, 1869.

WHEN TO SKIM MILK.

When milk is allowed to sour before it is skimmed, the layer of cream appears more bulky and of greater consistency, but it does not produce so much nor so good a quality of butter as cream properly raised and skimmed from milk before it sours. On this point we possess some interesting experiments by Sannet, who put aside two equal quantities of milk, of which the first, skimmed after thirty hours, yielded thirty pounds of butter; and the second, skimmed after a lapse of sixty hours, only twenty-seven pounds of butter.

In another experiment, two equal quantities of milk yielded—the one, when skimmed after thirty hours, thirty-one pounds of butter; and the other, after sixty hours, twenty-nine pounds of butter. In both experiments, in which the milk was skimmed after thirty hours standing, the skimmed milk was still sweet, and the cream not so thick and less in bulk than that which was thrown up after sixty hours standing.

The cream which rises first is always richer in butter than that which is thrown up later, and it also possesses more of that peculiar aroma which gives to butter that rich, nutty flavor and smell which imparts so high a degree of pleasure in eating it. When proper regard has been had to keeping the milk at the right temperature while the cream is rising, and the proper appliances are had in the dairy, all the cream that will rise at all will have to come to the surface in about twenty-four hours. Some claim that they can get it all up in less time. Of one thing we may be assured—the quicker cream can be made to rise the better its quality; for cream, like all perishable substances, does not preserve its original properties for any great length of time.

The best as well as the highest priced butter that now goes into the London market comes from the continent of Europe, where the greatest attention is paid to butter making. In Holstein, one of the points considered most essential in butter making is to skim the milk just at the proper moment; and this must always take place before the milk can become sour. Choice, keepable butter can only result when the milk has been kept sweet, as the souring develops curds. The Orange county butter makers observe this principle; and the experience of the best butter makers, both in this country and in Europe, appears to have settled down upon this principle as the correct one to practice. But while the cream should be taken from the milk before it is sour, the cream, on the contrary, is allowed to have a pleasant acid taste before churning.

It appears to be the general opinion of butter makers, both in this country and in Europe, that better results are obtained by allowing the cream to acquire a *slightly* acid taste than to churn it sweet; but this acid condition of the cream must not be confounded, however, with sourness, which is altogether different, and arises from different causes, such as standing too long, or from a close atmosphere, or from badly cleansed utensils, or from a general want of care and cleanliness.—*X. A. Willard, in Rural New Yorker.*

WHY WE GROW HEAVY WOOL.

Wool growers are very generally blamed for making heavy fleeces. The burden of the song of speculators and commission men, is "heavy fleeces," "too much grease,"—and the refrain is accompanied by the one-stringed instrument that is played upon by all Wool Buyers' Associations. The well-posted wool-grower has never attempted to conceal the fact that he makes his wool heavy because it pays him best to do so. That this is so is no fault of his. Incompetent men are sent out through the country to buy wool at an arbitrary price. They can't pay above such a price; but will take anything that is offered below or within their limit. Isn't here a premium upon heavy wool?

But suppose the grower concludes not to sell to this man, but ships his clip to Chicago, hoping to have it sold upon its merits, how does he fare? I have before me the circular of one of the largest commission houses in Chicago, (dated July 6,) in which I find these figures:—

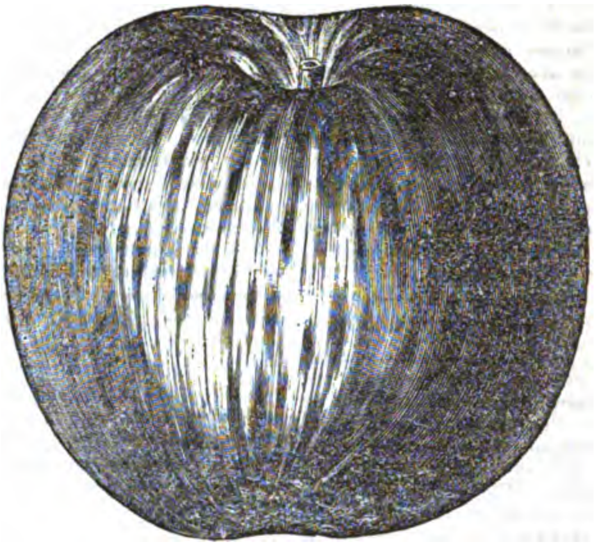
Fleece XX, good condition, light	40@43c
Fleece XX, bad condition, heavy	38@40c
Fleece X, good condition, light	40@42c
Fleece X, bad condition, heavy	35@37c
Fleece medium, good condition, light	40@43c
Fleece medium, bad condition, heavy	36@38c

Here we find *two* cents per pound difference in price between "good condition, light," and "bad condition, heavy." Now, a well grown Merino fleece of four pounds weight, would be in good condition; and one of five pounds would not be *very* heavy. But take the two for an example. I send to the commission house my four pound fleece, in "good condition, light"—sheared as soon after washing as dry, and it is sold for 40a43c—say 41½c. My neighbor allows his sheep to run two weeks after washing; then shears, and sends to the same house his five pound fleece, in "bad condition, heavy." Good condition means something more than *light*. It is free from tags, and surplus strings, and is every way sightly. Bad condition, of course, is the reverse of this. My neighbor's wool is sold for 38a40—say 39c per pound—I get for my light fleece $1.66, while he gets for his heavy fleece $1.95; in fact 29c per fleece premium for making his wool heavy, and in bad condition generally. Wool growers will put up their wools light, and good conditioned, when it is made their interest to do so. If two cents or two and a half cents per pound is all the value light, good conditioned wool has over bad conditioned heavy, to the manufacturer, he must content himself with the heavy—for the grower can't afford a loss of 25c to 30c on each fleece, just to tickle the pocket of his customer. Such liberality is not found in any other class of producers, and need not be looked for among wool growers, until manufacturers are ready to furnish a No. 1 doeskin at the same price per yard as an ordinary satinet.—*A. M. Garland, Chatham, Ill., in Western Rural.*

INSECT LIFE.—All the higher animals, such as mammals or what are commonly called "quadrupeds," birds, reptiles and fishes, breed an indefinite number of times in the course of their lives. For example, nobody expects that, because a heifer has raised one calf, she is going to die as a matter of course; neither does a hen necessarily die, because she has already reared one brood of chickens. But with insects the case is quite different. Every female insect, with the single exception of a few social species, such as honey-bees and perhaps ants and white ants (*Termites*) perish in the course of the same season, after laying their first and only batch of eggs. Their race is then run—the goal is then reached—and they retire from the course, to give place to that new generation of the same species, which, although it proceeds from their loins, they are yet in the great majority of cases destined never to behold.—*American Entomologist.*

GRASS FOR BREEDING HOGS.—A writer in the *Western Rural* says:—"A good supply of grass for breeders is of untold value. They should be put on pasture two or three weeks before breeding time, as it increases the milk greatly. Breeders, on a good supply of grass, with some corn, will not only retain their flesh, but grow continually, and be easily fattened in the fall or winter, while the pigs will be large and healthy, and their growth will not be checked during the winter. If breeders, with their pigs, are confined in small yards during the summer, and fed on grain alone, it will take two of the former to make a shadow in the fall, while the latter will be small and poor, and go into winter quarters good subjects for disease."

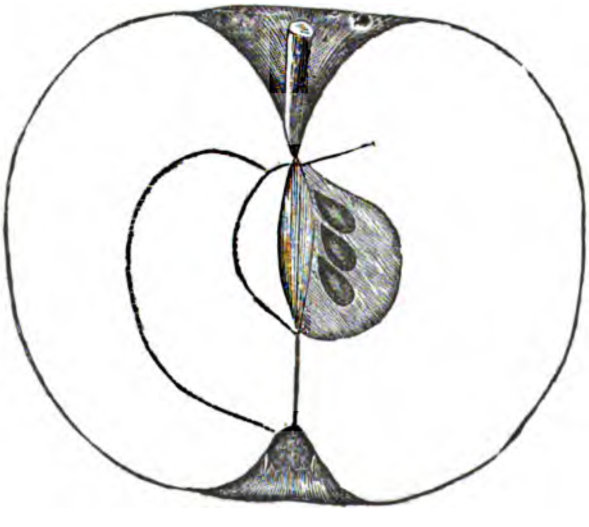
—One swallow does not make a summer, and the result of a single trial should not be taken as a rule. Writers for agricultural papers, and farmers generally, have much need to remember this.



THE CLARK APPLE.

As our market is frequently largely supplied with western apples, many of which are grown in the central and western counties of New York, we have thought that some of our readers might like to see an illustration and description of one of the local fruits of that section. We therefore copy from the *Rural New Yorker* the annexed cuts of a seedling apple from Ontario County. It originated on the farm of J. W. Clark, Esq., of the town of Naples, N. Y.

It is described as a strong, vigorous grower, forming a broad, open, spreading top. Young wood dark red brown, quite downy or moldy. Leaf thick, broad, roundish, slightly oval, pointed, coarsely serrated. Fruit medium, or above, in size, globular, slightly oblate in some specimens. Color a rich pale yellow ground,



mostly overspread, striped and splashed with two shades of rich, deep, clear red; the red deepest at the stem end. Scattering, irregular shaped light russet dots and traces, with an occasional raised russet patch. Stem medium in length and size. Cavity open, deep, acute, with five or more lines, giving almost appearance as if furrowed. Calyx small, closed with erect, reflexed, narrow pointed segments. Basin narrow, open, abrupt, slightly furrowed. Flesh yellowish white, coarse-grained, breaking, partially crisp, moderately juicy. Flavor pleasant, mild sub acid. Core medium.

LETTER FROM MR. BROWN.

CORNWALL, VT., Aug. 16, 1869.

The Green Mountains.—Lake Champlain —Progress in art and civilization.—Influence of machinery on the farm —Grass crop in Addison county.—A Hay-loader.—How constructed, and how it operates.—A new mowing machine and horse pitchfork.

GENTLEMEN:—I have been spending several days in this fertile and delightful region, between the Green Mountain range on the east, and Lake Champlain and the frowning Adirondacks on the west. I have crossed the lake several times, visiting the busy villages that nestle under the gloomy mountains, on the New York side, and have passed through a long tier of towns which lie on the flat lands east of the lake and stretch away up the sides of Snake and other mountains, that are separate and independent of the Green Mountain range.

* * * * *

I came to mingle once more with the farmers of Addison county; to notice their progress in the great art of agriculture; to see details as well as results; to look at their standing crops; what changes have been introduced in their style of buildings, especially their barns, and in the implements and machines which they employ in cultivating and securing their crops. I think all the changes which I observed are for the better; they are clear evidences of a higher civilization; of an intellectual advancement and greater refinement. A true or refined taste in the arts, in the style of our public buildings, school houses and churches, in our dwellings, and in the buildings which surround them, leads to an intellectual refinement which, sooner or later, will change the whole character and condition of a people. Five years ago I visited quite freely among these farmers. Within that time many new dwellings have been erected, and yet among all that I saw there is very little resemblance between those that were built only twenty years ago, and those erected within five years. The outbuildings share in the same progress. The barns are better, and the dairy-rooms have been completely transformed. This progress not only saves money, but it saves health and temper, which are of still more value. It elevates not the individual only, but the whole mass. Children grow up under it with more refinement of feeling and manner; with less disposition for litigation, and with a grace and ease that gives to social life one of its chief charms.

In this direction, the influence from the use of machinery on the farm is altogether underrated. On every farm I have visited there has been one mowing machine, and in several instances two. To this is always added a horse rake and occasionally a tedder. If a man delves with his hands from day to day, in addition to the mental labor required to superintend his affairs, he must sooner or later yield to the strain upon his powers. It will affect his temperament as well as his health, until his whole nature seems to have changed. It is no longer a bright and cheerful world to him, and moral, intellectual and physical progress are out of the question, in that degree in which they ought to proceed. What cotton and cotton manufactories have done for the civilization of the world, farm implements and machinery are still doing. Both are civilizers.

It is a world of grass in all this region. I have witnessed nothing like it before. The crop in Addison county is larger than it has been in any former season. The lands are clay and admirably adapted to this crop. I have visited fields that were *never ploughed*, have been mowed more than fifty years in succession, and never manured where they were taking off, before my eyes, from a ton and a half to two tons to the acre of excellent timothy and red top hay! Scarcely one of the farmers whom I have visited will cut less than seventy-five tons of hay, and from that all the way up to two hundred tons. In one instance where some old hay was left, the proprietor stated that when all his grass was cut he should have fully two hundred and fifty tons in all.

Before the introduction of the machinery now in use, the labor of haying required the aid of an army of Frenchmen from Canada to assist in securing it. Nearly every family had half a dozen or more, and the effect upon the subsistence department of the region was something like that of the descent of the untold millions of grasshoppers upon it in 1860. They swept everything eatable before them, and the Frenchmen do pretty much the same.

By the aid of labor-saving machines this army is reduced to about one-tenth of its former number, and has altered the condition of the work in-doors essentially, as well as out.

To the valuable machines which I have named, there has recently been added another which I have taken especial pains to see in operation; it is for loading the hay by horse-power, after it is sufficiently dry and thrown into winrow. I have seen it in use at three different times, and on uneven as well as even ground, and everywhere it did the work quickly and well. At one of my visits to see it, the first load was put on in *eight* minutes, the second in *seven and a half minutes* and the third in *seven minutes*. This was done by the steady, usual working of the machine, and without any effort to do the work in a short time. The bystanders estimated the loads at 1500 pounds each; the wagon, being a short one, would not conveniently take any more. The men using it stated that on a previous occasion they loaded and unloaded *eighteen loads* in *six and a half hours*, all the loads but the last one being placed upon stacks in the field.

The loader is attached to the hind end of the wagon; stands perpendicularly; is eight feet long and four feet wide. It has eight sole leather belts, each two inches wide, which pass over rollers at the top and a cylinder at the bottom. There are fifteen small iron spurs in each of these belts, which pick up the hay as the team, straddling the winrow, passes along, carrying it up and rolling it over upon the wagon. The whole of this weighs but 175 pounds. It can be attached or removed in less than five minutes, and can be applied to any wagon. It makes no noise while being operated, adapts itself to uneven surfaces, and is exceedingly simple in every part of its construction.

I had always imagined the hay loaders that I had read about as being heavy and cumbersome contrivances, hanging on to one side of the wagon, and requiring some human power to feed an endless apron that was to carry the hay along to the cart. When I saw this small and light contrivance, noiselessly picking up the hay and conveying it to the wagon, I came to the conclusion that a device had been reached which would complete the circle of machines to be used in securing the most important of all our crops—the hay harvest.

This machine was invented, and has been mainly built by Mr. Nelson B. Douglas, of Cornwall, Vt. He had it in operation last year, and has had it in continual use the present season, in order to make such alterations—if needed—as would bring it as near perfection as possible. Only about a dozen have been built, and those in use are in the hands of farmers who are testing their merits. None have been offered for sale. In the West, and wherever a large amount of hay is to be secured, this machine must take rank with the mower, horse rake, tedder and horse pitchfork.

There is a very singular looking mowing machine in this region invented and built by a Mr. Newell, of Shoreham. It has fewer pieces than any other which I have seen It has but two geared wheels, I think, each about eight inches in diameter. These are enclosed in a cast iron cone, and just far enough apart to meet gears attached to the shaft which gives motion to the knives. I saw it in operation, but not enough to form an opinion of its merits.

Another article which I desired to see in operation, was the *Shear Pitchfork*; but did not find one among the farmers whom I was visiting. It was spoken of highly.

My notes are not exhausted, but the length of my letter suggests that I had better defer speaking of some other items of Vermont farming until another time. So I am, very truly, yours, Simon Brown.

Messrs. R. P. Eaton & Co., Boston.

Building Hay-mows.—The *Ohio Farmer* says that where hay-forks are not used, much hard labor may be saved, and other advantages gained, by building up either the right or left end of the hay-mow first. One half of the mow being higher than the other, the top of the load may be thrown on the highest part and the balance on the lower. Being carried up separately, there will be a seam between the two parts by which the heat, always the greatest in the centre of the mow, will escape, and then in feeding out there will be no need of using the hay-knife to make a division of the mow.

WHAT IS A GOOD COW.

A writer in a recent number of the *Galaxy* gives the following general hints regarding the selection of a good cow for milk producing:

First. Health, good constitution or digestive apparatus, for which we require a capacious belly. Second. That the largest possible development of the animal shall be behind, in the udder and parts adjacent. A good cow is likely to be wedge shaped, of which the head is the smaller end. Big heads, or horns, or shoulders are not desired, because they have to be nourished by the food. But these are indispensable: a large bag, and hindquarters to support and minister to it. What do our milkmen look for in selecting milk giving cows? The first appearance, to a judge, will convey an impression as to the health of constitution of the cow. He will ask, also, a bony frame, one that does not steal the fat from the milk; and he will feel the skin, to find it flexible and covered with close softish hair; he will ask for good lung room, a capacious belly, a wide rump and well developed bag, covered with soft hair. Extending from this bag forward, he will be desirous to see prominent the two great veins which lose themselves in the belly; and on the back of the udder he will look for many well-defined branching veins. Then comes Guenon's "milk-mirror," which is a broad strip of hair running up from the udder to the vulva, which he considered the one thing needful; but which has not, in this country, been found an infallible test, though it is a good one. If, in addition, the cow is gentle, good tempered, you are almost sure of a milk-maker. Look for that kind.

—A correspondent of the *Prairie Farmer* writes: "That bugs may be kept from peas, if before planting they are soaked for two or three days in cold water. Be sure that there are no buggy peas about the premises and you will raise as good peas, and as free from bugs, as from seed that is fresh from Canada.

THE AMHERST TRIAL OF IMPLEMENTS.

The committees of examination at the trial of Mowers, Tedders, Horse-rakes, &c., held by the New England Agricultural Society at Amherst, Mass., last June, have just (Aug. 7,) published their report. The bulk of the report consists of detailed descriptions of the several machines furnished by their builders or proprietors. From a table headed "Schedule of Dimensions, Record of Trial, Test of Draft, &c., of Mowers" we make the following abstract of the statistics of the machines which took the gold and silver medals:—

COST, DIMENSIONS, DRAFT, QUALITY OF WORK, &c., OF MEDAL MACHINES.

	TWO-HORSE MACHINES.										ONE HORSE M CHINES.		
	Perry.	*Buckeye, No 2.*	*American*	*Clipper, No 2.*	*Kniffen*	*Granite State.*	*Advance.*	*Union.*	*Eagle.*	*Ætna.*	*Buckeye*	*Granite State*	*Kniffen.*
Price,	$125	$125	–	$120	$135	$130	$120	$125	–	$120	$115	$120	$100
Diameter of driving wheel,	28 in.	30 in.	37 in	30 in	33 in	37 in	32 in	30 in.	32 in.	31 in.	28 in	30 in.	28 in.
Breadth of driving wheel,	3½ in.	3½ in.	3 in.	3¾ in.	3½ in	3 in.	4 in.	3½ in.	–	3½ in.	3 in.	3½ in	3 in.
No. of double vibrations to each revolution,	26	24	30½	23½	23	31½	58	26¾	26	23	22	22	23½
Distance between the fingers,	3 in	3 in.	3 in	3 in	3 in.	3 in.	3 5 16 in.	3 in.	3¼ in.	3 in	3 in.	3 in.	3 in.
Weight of mower,	651½ lbs	614½ lbs	722 lbs.	560 lbs	675½ lbs	698½ lbs.	718 lbs	652½ lbs.	735½ lbs.	793 lbs	462 lbs	546½ lbs	512 lbs.
Time of cutting the lot,	18¾ min.	33½ min.	23½ min	27 min.	21½ min.	24 min	19½ min	26 min	27	18 min	16 min.	16 min.	11½ min
Number of stops,	1	8	11	2	–	4	–	–	3	2	–	9	–
Time lost,	15 sec.	1½ min.	1¾ min.	45 sec	–	20 sec.	–	–	30 sec	40 sec	–	2½ min	–
Number of clogs,	–	8	8	–	–	2	–	–	–	–	–	9	–
Stillness of running on scale of forty,	35	37	33	30	25	35	20	30	30	32	38	37	35
Quality of work, on scale of forty,	32	32½	33¾	35½	29¾	35¾	33	29½	30¾	31	35	35	30
Adaptation to uneven surfaces, etc.,	31¾	23¾	28¾	28½	23½	28½	25	17½	21¾	16¾	–	–	–
Number of yards cut,	219½	216	215	221	216	212	222	200	228½	225	220	213	219
Total draft,	51,400	42 200	51 450	40 650	42,950	46,600	53 300	53 400	51,800	61,600	37 800	37 8 0	41 30
Average draft,	234.16 lbs.	198 35 lbs.	239 30 lbs	208.25 lbs.	198 84 lbs.	219.34 lbs	240.09 lbs.	267.00 lbs.	226 69 lbs.	273.11 lbs	171.51 lbs	177.48 lbs.	202 28 lbs.
Width of swath.	4 ft. 6 in.	4 ft.	4 ft. 6 in.	4 ft.	4 ft. 6 in.	4 ft. 6 in.	4 ft.	4 ft. 6 in.	4 ft.	4 ft.	4 ft	4 ft.	4 ft.
Mark for quality of cut on scale of forty,	38	37	40	36	30	38	33	33	36	36	–	–	–

After giving an account of the trial, the substance of which was published in the FARMER at the time it was held, and the descriptions of the machines above alluded to, the committee make the following brief and rather unsatisfactory report, and announcement of premiums on mowing machines:—

In examining the mowers on trial, certain mechanical differences of a radical nature were discovered, which are worthy of careful consideration. Three mowers were constructed on the principle of the cutter bar on a line of the axle. These are the Granite State, Perry and American. Two machines had the cutter bar in the rear of the axle. These were the Ætna and the World's. The remaining machines had the cutter bar in front of the axle. The committee would call the attention of parties interested in mowers to these important differences, and would refer to the table for the comparative weight and draft of these various classes of machines, as well as the quality of their work, and their adaptation to mowing uneven surfaces, and overcoming obstacles.

Another principle by which the cutter bar can be rotated on its axis so as to accommodate itself to different kinds of grass, is also worthy of careful consideration. References to the descriptions of the machines will show in what instance this principle has been adopted, and the table will show the results of its operation when applied.

The committee have been governed in making their awards, by the record established by figures at the trial, considering also the value and importance of the points made prominent in each individual case by those figures. They have also considered that the award to any special machine, is a recognition of all the machines of that patent.

In classifying the machines as they have done, they have recognized the fact that improvements have been going on so rapidly in the construction of mowers, that more than one have reached their highest point; not forgetting, however, that in the future some one of the first class may advance beyond its associates in that class. They have endeavored to accept the existing state of things and they will look with interest for future improvements and changes.

In awarding the premiums on mowers, they passed the following vote, viz.:

Voted, That in comparing notes and figures for deciding the quality of mowers on trial at Amherst, it is found that many of the machines are so nearly equal to each other, that a classification is deemed just and proper; and in view of this the committee make the following awards:—

First Premiums.

The Society's Gold Medal to—

The Perry Mower, entered by Alvin Hastings, of Palmer, Mass.

The Buckeye Mower No. 2, entered by A. B. Barnard, West Fitchburg, Mass.

The American Mower, entered by Z. Chaffee, Providence, R. I.

The Clipper Mower, No. 2, entered by Belcher, Taylor & Co., Chicopee Falls, Mass., and

The Kniffen Mower, entered by O. Griffin, Agt., Worcester, Mass.

Second Premiums.

They award the Society's Silver Medal to—

The Granite State Mower, entered by Newhall & Stebbins, Hinsdale, N. H.

The Advance Mower, entered by T. Nishwitz, Brooklyn, N. Y.

The Union Mower, entered by Alzirus Brown, of Worcester, Mass.

The Eagle Mower, entered by H. J. Harrington & Co., Valley Falls, N. Y., and

The Ætna Mower, entered by L. M. Hoge, Salem, O.

Third Premiums.

They award the Society's Diploma to—

The Young Warrior Mower, entered by F. Bramer, Little Falls, N. Y.

The World's Mower, entered by E. Ball & Co., Canton, Ohio.

The Eureka Mower, entered by Wilber, Stevens & Co., Poughkeepsie, N. Y.

The Remington Mower, entered by C. M. Wilbur, Ilion, N. Y.

Class 2--One Horse Mowers.

They award to One Horse Mowers the following premiums:—

1st Premium. Society's Gold Medal to the Buckeye One Horse Mower, entered by A. B. Barnard, West Fitchburg, Mass.

2d Premium. Society's Silver Medal to the Granite State One Horse Mower, entered by Newhall & Stebbins, Hinsdale, N. H.

3d Premium. Society's Diploma to the Kniffen One Horse Mower, entered by O. Griffin, Worcester, Mass.

Horse Rakes.

The committee make the following awards of premiums on horse-rakes:—

1st premium, the Society's Silver Medal to the Bay State Rake, entered by A. B. Barnard, West Fitchburg.

2d premium, Society's Diploma to Warner's Sulky Revolving Rake, entered by H. N. Tracy, Essex, Vt.

And they also award to Streeter's Horse Rake, the Society's Diploma.

Hay Tedders.

The committee after stating the claims of the manufacturers of the several Tedders, and giving their draft as ascertained by a common dynamometer, as follows:

Bullard's	175 lbs.
Atlantic	15[illegible] lbs.
American	150 lbs.

make the following announcement of premiums:—

1st Premium, Society's Silver Medal to the American Hay Tedder, entered by the Ames Plow Company.

2d Premium, Society's Diploma to the Atlantic Tedder, entered by A. B. Barnard, West Fitchburg, Mass. And they also award a Diploma to Bullard's Tedder,—the Society's Diploma.

Hay Forks.

Raymond's Elevator was the only one exhibited. It received the Society's Diploma.

A FINE FIELD OF OATS.

The oat and rye crops this year, appear to us, as they stand in the field, to be better than we have ever seen them before. Unless the stone walls that enclose them are unusually high, the crops do not have to get on tip-toe to look over them.

On a field of four acres in the town of Acton, on the farm of Mr. SAMUEL HOSMER, which we had the pleasure of looking at a day or two since, single plants were found measuring nearly *six feet* in height! The heads of grain bore a fair proportion to the stems. The average height of the stems throughout the field must have been very nearly four feet! The oats are of the *Norway* variety. On counting the number of grains on each of three heads, one was found to contain 75, another 79, and the third 90 grains. Counting the grains on three of the finest heads that could be found in a field of common oats, there were found on the first, 23, the second, 25 and the third, 26 grains.

It is generally supposed that oats are a poor crop to seed down land with; that they occupy the land too much, both by their roots and their shade. In our practice, however, we have never succeeded better with any other crop. We gave special attention to this point in examining Mr. Hosmer's fields, and found as handsome a "catch" of both clover and herdsgrass as we ever saw, notwithstanding the very heavy crop of oats standing on the ground. We understood him to favor the use of oats as a crop, when seeding land to grass.

We were much interested in the appearance of Mr. H.'s farm, and hope to be able to spend more time on it at some future day.

Since writing the above, we have received a single stool of the same variety of oats from the farm of Mr. GEORGE BROOKS, of Concord. The stool before us has every appearance of having sprung from a *single oat*, and yet the head contains, according to Mr. Brook's counting,—*one thousand and seven hundred distinct grains!* On a piece of Nova Scotia oats, the average grains on a head were only about 27. He states that the "catch" of grass seed surpasses anything of the kind he ever saw; the herdsgrass standing about a foot high all over the field, and the clover, sowed at the same time, thick and luxuriant.

MILK FEVER.

A correspondent of the *Ohio Farmer* gives the following account of his treatment of a large, fat cow which began to have symptoms of milk fever, on the second day after dropping her calf. Her milk stopped, she breathed hurriedly, and her flesh trembled. She grew rapidly worse. I gave her a pint of linseed oil, and then threw over her a linen horse-blanket that I kept constantly dripping wet with cold spring water. In about two hours after the first dose of oil I repeated it, and continued the use of the water. I was up with her the whole of the night. The next day I continued the use of the water, but used less, as the heat of the body seemed to subside. At night she was able to stand, and her milk began to flow. In a few days she was well and had no further trouble. While she was sick I gave her what water she would take, though at first I gave it warm. Her physic operated freely.

On this the editor of the *Ohio Farmer* remarks, "cold water is, doubtless, one of the best remedies that can be used in cases of milk fever, and the most natural, for cows will often seek streams or springs when first attacked, and lie in the water until restored. It is nevertheless important to exercise care in the use of cold water, for although of great potency in the early stages of the disease, it is fatal if applied freely after the animal has lost her vital energy."

For the New England Farmer.

WHERE SHALL I LOCATE?

This question is, without doubt, a fruitful theme for discussion at many a fireside where the FARMER is a regular visitor; for it has been constantly agitated for many years past. It is heard in private conversation, is seen in the papers; it is put by friend to friend, by stranger to the stranger. The press teems with articles in one form or another tending to help decide it; and will you, Messrs. Editors, permit me to add to such contributions by calling the attention of your readers, contemplating an early removal, to a county where good farms can be bought cheap?

It is in one of the older States, lies upon the sea shore, and has long been settled. Its surface presents an ever varying succession of plain, hill and dale It is well watered by rivers, brooks and springs. Every town has its pond or ponds of a size which, in the old world, would be called lakes, with some romantic name. The scenery is everywhere pleasant and attractive—and around some of these lakes, by the rivers and along the rock-bound coast it is picturesque and beautiful. With this great diversity of scenery, there is every opportunity for displaying an equally varied style of rural embellishment, and where the hand of man has adorned his home according to the best rules of landscape gardening, it is difficult to find in this country more cozy and attractive residences.

The county embraces a large variety of soils, which are so intermixed, that three and four kinds are often found upon the same farm. Their general character is good. They are rather hard to be worked, but are retentive of manure and seldom fail to repay well directed labor. Only the light lands, or those easily worked, have been impoverished. The wet lands of which there is a large area in the runs, meadows, marshes and peat bogs, are richer than when the first settlers begun to clear up their farms. It is only within a few years that the subjugation of these lands commenced in earnest. It requires but little engineering skill and outlay, to relieve them of their surplus of water and render them highly productive. This variety of soils enables the tiller to cultivate as many different crops as it is expedient for one man to do. An entire failure of crops from frost, drought, blight, overflows, &c., rarely or never happen, which cannot be said of some parts of our country, possessing a richer soil and a genial climate.

There are no toll bridges; no toll gates or plank roads. Every town is crossed once by a railroad and many twice. Only a part of the expense of keeping common roads in repair falls upon farmers, as there is so much tax paying property of other descriptions. The social, educational and religious privileges are all that can be expected in a long established community in a State that intends to be in the first rank in intellectual and moral progress.

But the chief advantage is the ready, home cash markets. There are already in the county four cities, and one or two more prospective. These are situated along its borders and large towns and flourishing villages so intervene, that few farms are more than six or seven miles from market. Thus farmers can reach the consumer directly, and the profits of middle men be secured to themselves. Here are quick sales for all that is raised, for the county is a large importer of provisions. The net products of more than fifty thousand acres above what is raised within its own limits are annually consumed; and the rapidly increasing population is requiring more and more every year. The consumption being greater than the production, the county is in a sure way of increasing the fertility of its land, if a judicious use be made of the waste materials. Beside the fertilizers that can be obtained in villages and cities, at the paper and woolen mills, soap work, tanneries and other manufactories, there is an almost inexhaustible supply in bogs, peat meadows, marshes and along the sea shore.

In the midst of these advantages there are many farms for sale at thirty to seventy-five dollars per acre including all improvements. And here are excellent opportunities for men with small means to purchase the lower priced farms. The titles are sure; terms of payment very easy; the land well enclosed, generally with stone wall; fruit trees already in bearing condition; wood enough for home consumption, if not, coal can be had at sea board prices; buildings comfortable, far better than the houses of the settlers of the South and West; the farms are not worn out, but simply run down. The purchaser can devote his whole energy to the cultivation and improvement of his land to produce and sell in markets where produce averages higher prices than in other parts of the United States except the gold regions, and buy his groceries, dry goods, hardware, &c., at lower rates than he can in the valley of the Mississippi. If he will only practice voluntarily a part of the self denial which he must from necessity submit to in a new country, he can speedily pay for his farm; while from the first, he and his family can enjoy comforts and pleasures, which would require years of toil and privations to attain in a sparsely settled district of the South or West. No experienced person will advise a farmer to emigrate to the South without considerable capital; and land at the West with improvements and near markets commands high prices; and it will cost more to buy new land and put upon it buildings and other requisites to a good farm, than to buy farms here with all modern improvements, to say nothing of what is lost by years of patient waiting for the means to get them.

But some one may say, is it not a discredit to a locality to have many farms for sale? If the desire to sell arose entirely from the unprofitableness of the business or the unhealthy character of the climate, it would be so. The truth is agriculture is not really popular with the young men and women; they seem to have a greater love for trade; the mechanic arts and city life, rather than for the farm. Agriculture is an old story, and a slow means of acquiring wealth and position, while manufacturing is something new and has paid remarkably well. Many who left the farm to engage in it have quickly acquired a competency. This creates a discontented feeling with those who remain at home. They wish to go somewhere and do something different from what their fathers are doing. Not a few have gone to the West for a change, and without really knowing how well they might do in their own county. Hence many old farmers are left alone without sons or sons-in-law who want the farm. Such, of course will be sold at the first opportunity. This cause largely increases the number offered for sale through the common order of events.

I have thus briefly pointed out some of the advantages of Essex County, Mass.; and what has been said of it, may in the main be affirmed of scores of other counties in the Eastern States. The idea that a farmer invariably improves his circumstances by locating in a new country is deceptive; it has been carried to an extreme. Golden opportunities about home are overlooked in the eagerness to find something better in the far off distance. Thousands of desirable farms can be bought in the sea board States for less than present cost of fencing and buildings. If the same amount of energy, diligent study and money expended in searching for a good location in some distant State, with the industry, patience and self denial in establishing a comfortable home upon it, were displayed here, purchasers would quickly find themselves the independent owners of profitable farms. The fallacy of the doctrine, promulgated with the rapid extension of railroads, that distance from market is of little account, will ere long be clearly proved to all, and it will be seen that it is an important consideration to be located near great markets of consumption and exportation, even though the soil does not possess the virgin fertility of prairie land.

Lawrence, Mass., Aug., 1869. N. S. T.

For the New England Farmer.

FINE AND COARSE WOOL.

At the earnest request of a number of farmers who have written to me making inquiries in relation to the proper method of breeding and feeding, of buying and selling, both sheep and wool,—in short, my whole experience for the last thirty years in this branch of farm stock, I have concluded, with your consent, to reply through the columns of your paper.

In the spring of 1834, I bought the farm on which I now live, and stocked it with Merino sheep, expecting to pay for it from the proceeds of the flock. I spared no pains in improving my flock until my farm was fully stocked with a most beautiful flock of large, fine young sheep at a cost of about three dollars per head. My first clip of wool sold readily at sixty-five cents per pound and my lambs were worth a dollar and seventy-five cents each.

Had these prices continued, raising wool and lambs would have been, for those times, a fair business. About this time South Carolina doubled her fist and shaking it in Uncle Sam's face declared that unless he would hoist his gates to foreign importations his kingdom should speedily come to an end. So the Government adopted the Clay compromise. Under this compromise the price of fine wool from this same flock of sheep, went down from sixty-five to twenty-nine cents a pound.

After a loss of five years' time (and the most important five years of my life) I found myself obliged to stop raising fine wool. I sold nearly my whole flock except enough for an experiment in crossing with long wools. I then bought a very superior Cotswold buck lamb and a very nice pair of Cotswold yearling ewes, and this cross was the commencement of my breeding Cotswold sheep. Crossing the Cotswolds on the Merinos has been attended with very fine results. I occasionally added to my number of pure bloods, until I had a flock of twenty or thirty. I sold the products of one of the first two sheep I bought for fifty dollars for one year, besides the fleece, and the descendants from them have been as good as I have ever raised. I have often sold the income of a single Cotswold sheep for more clear money than I have ever realized from a cow.

In regard to their propensities for rambling, I can say truly that there is no breed of sheep more quiet or orderly, if kept as they should be. It is impossible that they should be otherwise, for, what headway would sheep weighing one hundred to two hundred and fifty make in jumping over a rail fence? A sheep of this breed weighing two hundred pounds would sooner starve than jump over a four rail fence.

In a recent tour to Vermont I noticed that the pastures on some of the farms were literally black with Merino sheep, and the all-important question with the farmer is, what shall we do with them? To raise fine wool at the present prices does not pay. "We are disgusted with keeping fine wooled sheep." I am often asked how will it do to cross them with long wools; and here again I can only give my own experience and observation.

We will suppose a farm of four hundred acres fully stocked with fine sheep and those not of very large size. If the weight of the whole flock was in half the number of sheep it would be easy to decide. I should say by all means breed them to *full blood* Cotswold bucks; send the buck lambs to the butcher and keep the ewe for breeding purposes. Give them the best possible chance at feed, both summer and winter, and the lambs by the middle of August should weigh fifty to sixty pounds and sell in the market for eight cents a pound which would be about four dollars or $4.50 per head, which, added to the price of the fleece, would make a fair income from a sheep. Suppose the fleece to weigh five pounds, and to sell at forty-four cents per pound, the fleece would then bring two dollars and twenty cents. Add to this the price of the lamb, at four dollars, and we have an income of six dollars and twenty cents as the income of a sheep.

But with a farm fully stocked with sheep we cannot obtain this result, so it will become necessary to reduce the flock one-half, or more than one-half would be better. But how is this reduction to be made without loss? I answer that, if the first cost of the flock was more than their present value, it cannot be done; but there is the choice of losing now or of keeping on increasing the flock and making a greater loss hereafter. But the loss in numbers should be made up by an increase in the size of the remainder of the flock. Raising market lambs in connection with the raising of fine wool is a paying business. But the sheep of Vermont, as a general rule, are too large in numbers and too small in size. A single cross with the Cotswolds of large growth will very much increase their weight and produce a sheep well adapted to raising wool and market lambs.

But all at once, while the breeders of fine-wooled sheep are making arrangements to change their flocks somewhat to meet a demand for long wool, the merchants of Boston send a petition to Congress for the re-establishment of the Canadian reciprocity treaty. Farmers should oppose this measure, as they are perfectly able to supply our manufacturers with coarse wool, and will soon do so at fair prices, if they are allowed a fair chance.

T. L. Hart.

West Cornwall, Ct., 1869.

REMOVING HONEY-BOXES FROM HIVES.

Supposing that the reader has hives of the most approved patterns, and has placed the honey-boxes upon them at the proper time, I propose to give a few directions as to the best way of removing them when filled. It is never good policy to destroy a single bee when it can be avoided, and especially in the honey-harvest, when every bee is required to gather the produce of the flowers. Careless apiarians are very apt to destroy bees unnecessarily, while obtaining surplus honey. Where hives are so constructed as to allow of its use, a piece of sheet-iron or tin, to slide under the box to be taken off, so as to prevent the bees from below from flying out when the box is removed, is very handy. Smoke of some kind, (either tobacco, rags or wood, will answer the purpose,) and should always be used to quiet the bees, and prevent them from stinging the operator. A little blown under the box as it is lifted from the hive will cause the bees to be very peaceable and harmless. As soon as a box is removed, an empty one should be put on, for if it be delayed, the bee keeper will often lose the best of the harvest, for a few days in the height of the honey season, are often of more value than weeks afterwards would be.

The best method I have ever tried, and the one recommended by Mrs. Tupper of Iowa, for driving the bees from the boxes, is to take them off just before night and place them upon a table after supper. They should be inverted, and several of them can be placed side by side, and a box of some kind turned over them, which is just large enough to cover the entrances to the caps. In the morning the bees will be found clustered together, when they can be set out of doors and allowed to seek their own hives. Or, if it is preferred, each set of boxes may be numbered, and kept separate from others, and the bees emptied in front of the hive from which they were taken. The chief advantage this plan possesses over others, is that it prevents the jarring of the boxes, which in warm weather, when the comb is tender, often does serious injury to the honey, both in appearance and value.—*Rural American.*

TRAINING HORSES TO BE SAFE.

It is easy to train a horse not to be dangerous. It is easy, but it requires patience and good sense in the trainer, and good sense in the colt too. Some colts are natural fools and can never have sense trained into them. It is not at all difficult to train a young horse to be gentle and quiet under almost any circumstances; and if something unusual should terrify him, he would run to his master sooner than run away from him. A horse properly trained will always look to the rider or driver in the time of fright, for protection; and instead of kicking and tearing everything to pieces, when scared, he will, when he sees you standing by him, and feels your hand on his head or on the rein, put his trust in you, and regard you as his only hope in time of danger. This was often illustrated during the war. All who served in the cavalry or artillery force have seen how terribly frightened a horse appeared the moment his rider tumbled from the saddle. It mattered not how loud the thunder of the guns roared in battle, nor how great the confusion in the hour of deadly strife—the horse seemed unconscious of danger until left alone, without a rider or attendant. The moment the rider's hold was released and the steed found himself separated from the one he was trained to regard as his protector, that moment he became furiously wild, and would begin to neigh and run in every direction, oftentimes pressing into the group in the front rank, seeming to find comfort by rubbing his sides against the legs of the riders of other horses.

Every farmer who raises colts, could, with a little care, make them familiar with the saddle and harness on their back or under their belly, and also teach them to hold back a carriage on a down hill grade, by bracing their hips against it. A horse taught in that way, would not be scared if the rotten breast-strap should give way or the pole break, and let the carriage against him.

Educated horses will always be saleable and bring a paying price. A really serviceable and valuable horse is seldom seen on the market, in any of the large cities. Those that are free from blemish are generally uneducated, and as dangerous at times as if they had never been hitched to a carriage. Farmers can raise colts that will pay well, by giving some attention to educating them for the various purposes horses are used for.—*Rural World.*

Bag Holder.—A very convenient arrangement for holding bags while filling them may be easily made as follows:—Take a piece of plank about twenty inches long and a foot wide, bevel off the sides a little and nail strips of thin boards, that will spring, six or eight inches wide to it, for uprights. The plank base should be beveling enough to make the uprights about fifteen inches apart at the upper ends. The bag is placed between these, and the upper end folded over the ends of the shoulders two or three inches. It will be held firm and in a convenient position for filling. The uprights should be just long enough so that the bag will rest upon the plank when being filled.—*Ohio Farmer.*

EXTRACTS AND REPLIES.

TETOFSKY APPLE.

Of Russian origin, like the Red Astrachan. Both are among the earliest of apples. Both are extremely hardy, and adapted to a wide extent of country, even the northern limits, where few but the crab apples succeed.

The Tetofsky is now ripe, August 3, 1869, and is remarkable for bearing while very young, even trees the second year from bud in the nursery now bear one to six specimens, clustering six inches to three feet from the ground.

The tree grows very stout, has reddish yellow bark, naturally takes a dwarf habit, remarkably large leaf, sets very full of fruit spurs. It is a tree that once seen is always remembered without label. Bears every year. Fruit of medium size; pale pellow, with dull red stripes covered with white bloom; ribbed, short stem in deep cavity, calyx often closed in broad basin, surrounded with knobs; flesh white, small core, few seeds; slightly acid, excellent for table cooking; not new, well tested in many parts of the country; in great demand on account of hardihood in the great Northwest; adapted also to North New England and Canada. J. W. MANNING.

Reading, Mass., 1869.

DAMAGED LIME AS MANURE.

I have some casks of lime that have been damaged by water. Can you inform me of the best way of applying it to land for agricultural purposes?

Will it do to spread on and plough it in? If so, in what quantities should it be used to the acre?

Will it be of any use to put on land about to be sowed down, without being made into a compost? How will it do for trees? C. H. B. BRECK.

Boston, Aug. 10, 1869.

REMARKS.—Let it air-slake, and spread broadcast. That is the least trouble. If slaked with water, as masons do, a smaller quantity will answer, when applied immediately, as in this state it is quite soluble, but very slowly so, after it has been exposed to the atmosphere and become like chalk. The use of lime promotes the *permanent* fertility of the land, for unless washed out by floods, it can only be removed from the soil by becoming the food of plants. Some writer has stated that "on poor, peaty soils, no other manure can be compared to it, either for powerful effect, or for rapidity of action; and its influence is nearly as great on the stiffest clay land."

The amount used on an acre should vary with the kind of soil; that which contains most organic matter will bear a larger proportion than that which is more free from vegetable or animal remains. In England, very large quantities are sometimes applied; but unless upon old pastures, or moist lands covered with mosses, we think it entirely unnecessary. Twenty-five bushels per acre answers an admirable purpose, if repeated once in three or four years. If too much is applied, the land becomes *tired* of it as it is termed in England, and instead of being beneficial it seems to have the contrary effect. We have heard it stated that five bushels of quick-lime, slaked, and spread upon the surface, is all that the plants will use in a single year, and that it will prove highly beneficial on most soils.

HORSES' FEET INJURED BY STANDING ON A HARD FLOOR.

What shall I do to restore my horse's fore feet to a natural state, (if I may use this expression,) as they have become dry and hard by standing on a dry plank floor in my stable, and which I think has caused a little lameness in one foot? Would it be advisable to make a bag of sufficient dimensions and fill it with fresh cow manure, and sink the whole foot in it in order to moisten the walls of the foot all around equally? Please advise me as to the best method. Permit me to say that I do not find as much on the management and treatment of horses in the FARMER as I should be pleased to. Will not some of our experienced horsemen be so kind as to contribute more on that subject? SUBSCRIBER.

East Taunton, Mass., July 30, 1869.

REMARKS.—We have no experience with respect to the use of cow manure in the treatment of tender feet. A few years ago we had a horse in the condition described above. We took away about four feet of the floor, on which the fore feet stood, and filled up the space with clay and sand well bedded down. It took three cartloads. Since that time our horse has stood on this, instead of a dry floor, and has done the better for it. When the heels have become contracted from standing on a dry floor, it is difficult to find an effectual remedy. If you try the cow dung, some day please report the effect. In this connection it may be well to reprint the following, which we copied a few weeks since: "An old stable keeper in England says he has never had a bad foot on his horses since he commenced the practice of bedding them on a thick layer of sawdust. Pine sawdust he finds the best, oak the worst."

If we had any word that would enforce our correspondent's appeal for more frequent contributions on the management of horses, we would give it a hearty expression. But how is it, Mr. Subscriber, with yourself? Might not you communicate some fact from your own observation and experience that would not only be of service to some, but call out others who may perhaps, like yourself, be regretting that they do not see as much in the Farmer on the treatment of horses as they wish to?

A DAMP HOUSE.—PRUNING WHITE PINE TREES.

The New England Farmer being a sort of farmer's Bible, it is almost indispensable in every family. And the eleventh commandment is this: "Thou shalt take the New England Farmer to obtain a knowledge of all earthly blessings." It also informs us to "ask and we shall receive. Seek and we shall find."

Therefore, Mr. Editor, I wish to ask a few questions: What shall I do to prevent my house, and the things therein, from moulding in the winter? The dampness seems to come up through the floor, and wets and even moulds the paper; and in fact everything in that part of the house where there is no fire kept. It is a plank house, so called, and the finish put on the plank both sides. It has a small, wet cellar, only under the kitchen. Will enlarging the cellar be the cure? When is the best time to trim little pine trees? W. D. Colby.

West Springfield, N. H., July 7, 1869.

Remarks.—A damp house is not only an uncomfortable, but an *unhealthy* house. The first thing to be done is, to secure quick and thorough drainage all about it. Follow this up by digging a cellar under all that part of it, at least, where you live and sleep, and provide such windows in the cellar as will afford free ventilation through it. In clear, windy weather, open these windows for a few hours, frequently.

If the sills of the house rest very near the ground, and the planking stands perpendicularly upon them, it is possible that dampness may be carried up by what is called capillary attraction. If so, the sills should be raised and set on stone underpinning.

Trim the little pines when they are making *the least* growth, because then there is the least sap in motion to run out.

But why do you prune the pines? Are they forest pines? We ask for information, not being decided as to whether it is best to trim a young evergreen forest or not.

GEOFFREY PIT.

I saw in the last Farmer a description of the "Geoffrey pit." I wish to inquire the proportions used of the saltpetre and sal ammoniac to a gallon of water; also the price by the hundred pounds. What we want is manure and that properly applied. I told my neighbors about ten years ago, when I first began here, that the great study of the farmer should be to make manure. To this some replied the great study of the farmer is to get a living. Well, I built a barn with a cellar under it. I have drained my moist land, and removed the stumps and stones. Where I then cut about one ton of hay, I now cut six. The work has been done mostly by odd jobs. I recollect well the expression used by one man, who came along as I was digging up a large stump in a slough hole,—"that land will not be good for anything after you get it out." A few days since I cut at the rate of two tons of hay to the acre on the spot. L.

Winchendon, Mass., July 29, 1869.

Remarks.—Mr. Baker, in his description of the "Geoffrey pit," does not give the strength of the solution of saltpetre and sal ammoniac. Refined saltpetre requires about five times its weight of cold water to dissolve it. Sal ammoniac about three times. Crude saltpetre, which contains common salt and nitrate of lime, is imported largely from Calcutta, and is probably obtained in Ceylon very much cheaper than it can be here. The powder makers and the dry salters can tell the price. This would be the article wanted in agriculture. We presume that one pound, perhaps less, to a gallon would be sufficient. The muriate of ammonia or sal ammoniac is obtained chiefly from the "gas liquor" at the gas works, by means of sulphuric acid and common salt and heat. From the sal ammoniac thus obtained, are made the carbonate, sulphate and other preparations of ammonia. Crude sal ammoniac ought to be very cheap. A few pounds to a barrel of water would be sufficient.

IS MUCK A PROFITABLE TOP-DRESSING?

Can muck be profitably used for a top-dressing to mowing lands? The soil in this section is of slate formation, rather stony. Our muck is rich both with animal and vegetable deposits, black, ammoniacal. If you will inform me on this point, you will also settle a question which is very generally *talked*, but never acted upon by our farmers of Northeastern Vermont. Q.

Waterford, Vt., 1869.

Remarks.—The use of good muck is profitable on all soils; on moist granite soils, on clay loams, and especially on *sandy* lands. It adds vegetable matter, acts mechanically on heavy soils by separating the heavy particles and lightening them, collects and retains moisture on dry lands, and is an excellent absorbent of ammonia, and whatever other salts come within its reach. Its effects on sandy lands are usually more striking than on any other, because such lands are lacking in vegetable matter. When added liberally, its influences are quite permanent, as after a lapse of more than twenty years, they may be distinctly seen. The blacker muck is, the better the quality. When it is reddish, or pale brown, and soft, it is less valuable.

An excellent way to use it is to have it where it can be thrown into the trench behind the cattle, and thus become thoroughly incorporated with the droppings of the cattle.

With most muck it is far better if thrown out and exposed to the atmosphere for a year before using it. In that condition it costs only about half as much to cart it. If you test old muck in the garden—whatever the soil may be—you will find the roots of nearly all plants clustering about and passing through it in every direction, and the growth of the plant will be vigorous.

PEACH LEAVES.

My purpose of writing is to inquire of you about the properties of peach leaves. Is it a fact, as I have been told, that peach leaves when eaten by cattle will cause death? If so, please state at what season they are most deleterious, whether when cropped from the tree or in a wilted state, or when they fall in the autumn? I have set out quite a number this season, and I have yet to learn about the poisonous properties of their leaves, if in any considerable degree they are so. D. W. N.

Sterling, Mass., Aug., 1869.

Remarks.—The leaves of peach trees contain a certain amount of *prussic acid*, and are undoubtedly poisonous. If eaten in large quantities they would be likely to kill cattle. We should prefer not to risk them where they could find abundance of leaves, either in a green or wilted state. Even if there were plenty of grass for the stock, they might prefer the peach leaves. Cases of death have occurred in children by eating the meat of the peach stones. The bitter taste in the leaves and stone, is occasioned by the presence of *prussic acid*.

BLACK-KNOT ON CHERRY TREES.

Thirteen years ago I took up five cherry trees, covered with black-knot, like specimen enclosed, brought them on my back four miles and set them out in the garden. They have grown well and are now handsome trees. They bear abundantly every year, afford a delightful shade and are truly an ornament to the garden. But in all directions in the neighborhood, the cherry trees are being spoiled by the black-knot. When I ask my neighbors why they allow their trees to be thus disfigured and spoiled, the invariable answer is, "I can't help it." My own trees have been preserved simply by removing the excrescences. My father carefully watches them, and as soon as a branch is found to be affected it is removed, if not too large. If the limb is too large, the "knot" is shaved off clean. This is all that has been done. On examining these black bunches we invariably find from one to half a dozen grubs or worms, varying in size from a microscopic mite to worms half an inch in length. Now as I am not much of a worm-arian, will you please to give me through the Farmer some information as to the character and habits of this destructive insect? I suppose they remain in the excrescence until the first stage of their existence is performed, when they assume a different shape, deposit their eggs on other branches and thus perpetuate the species. Zen.

Springvale, Me., July 29, 1869.

Remarks.—On cutting into the black mass on the twig you sent, we found two worms about one-fourth of an inch in length, with a reddish head, flesh-colored, bare bodies. But according to the books, we have yet to prove that these warts are caused by insects. Dr. Walsh, of the *American Entomologist* believes they are caused by a minute fungus, like rust on wheat, mildew on grapes, &c. He says that they ripen their seeds, or "spores" as botanists term it, the latter part of July, which then float in the air like thistle seeds, and plant themselves on the bark of the limbs of trees. Prof. Harris, in his book on Insects Injurious to Vegetation, is undecided as to the origin of the black-knot. He gives the opinions of naturalists both for and against the theory of the insect origin of the disease. He says, "but whether caused by vitiated sap, as Dr. Burnet supposed, or by the irritating punctures of insects, as believed by Prof. Peck, which is the prevailing opinion, or whatever be their origin and seat, they form an appropriate bed for the growth of numerous little parasitical plants or *fungi*, to which botanists give the name of *Sphæria morbosa*. These plants are the minute black granules that cover the surface of the wart, and give to it its black color. When fully matured, they are filled with a gelatinous fluid, and have a little pit or depression on their summit. They come to their growth, discharge their volatile seed, and die in the course of a single summer; and with them perishes the tumor whence they sprung. It is worthy of remark that they are sure to appear on these warts in due time, and that they are never found on any other part of the tree.

"Insects are often found in the warts of the plum tree, as well as in those of the cherry tree. The larvæ of a minute *Cynips*, or gall fly, is said to inhabit them, but have never fallen under my observation. The naked caterpillars of a minute moth are very common in the warts of the plum tree, in which also are sometimes found other insects, among them little grubs from which genuine plum-weevils have been raised."

Dr. Walsh believes that the fungus that causes the warts on plum trees is of a different species from that which causes the warts on cherry trees, and that the plum-knot is not propagated by the cherry-knot, nor *vice versa*.

HABITS OF THE PURPLE MARTIN.

Can some of the readers of your worthy paper give me some information in regard to the manners and habits of the bird known as the Large Black Martin. They build in the houses of some of my neighbors erected for their use, to the number of twenty or thirty in a house, while I have one larger and superior to theirs that is always vacant. Can some reader inform me the cause?

June 12, 1869. A Subscriber.

Remarks.—The above inquiry was submitted to E. A. Samuels, Esq., author of "Birds of New England and Adjacent States," who has very kindly furnished the following suggestions, which we take much pleasure in publishing not only as a reply to the question of our correspondent, but as containing hints that will undoubtedly be valuable to other readers of the Farmer who may like to cultivate the acquaintance of these social birds. Mr. Samuels says:—

"The peculiarity of the martin in avoiding certain houses and localities has been repeatedly noticed, but never satisfactorily accounted for. We have known of numbers of instances of the birds flocking to a martin house and crowding and fighting for possession of the apartments in it, while another house apparently as attractive, convenient and favorably located was avoided persistently.

Several points are to be taken into consideration in the erection of a martin house. It should have large rooms with entrances on different sides. We have known of a box being avoided when its entrances faced a certain point of the compass, and when taken down and turned in a different direction, it was at once inhabited by several families.

Especial care should be taken to secure protection from cats. A martin knows instinctively all the rapacity and cruelty of the feline race, and carefully avoids a house that is approachable by its enemies. We have in mind an instance of a colony of martins being destroyed by a cat that ascended the pole on which the house was erected, and from that to the present time it has been unoccupied. Ventilation is important in a martin house. It will be noticed that houses with two tiers of entrances, through which a current of air may pass, are the favorites, and an old weather beaten box with numberless cracks in it is more generally tenanted than a tight gaily painted affair. Our experience has been that olive jars are attractive tenements for these birds. They should be fastened to the eaves of the barn or on a naked fork of a tree, or on the top of a smooth pole,—the entrance arranged at such an angle that beating rains will not prove troublesome, and a small hole punctured through the further end. Vermin are serious pests in martin boxes, as in pigeon cotes, and birds will avoid them if infested.

My advice to your correspondent is, to take down his martin-box, examine it, and if infested by vermin, give it a thorough cleansing. Change its position, and cut more entrances, on different sides, and see if its neglect is owing to its accessibility to cats. Care on these points may insure him, another season, a large colony of one of the most interesting and pleasing of birds."

A PLEA FOR THE CROW.

I wish to enter my plea for that much abused, but faithful friend of the farmer, the crow. In my youthful days it was the custom every spring for men and boys to turn out for a grand crow hunt. All the nests that were accessible were destroyed; and every crow that came within range was shot. Wonderful feats in climbing were acccomplished by the boys, shinning up the huge trees on which the nests were situated, or climbing some adjacent tree and venturing out on the branches till the other tree was reached. They were considered the natural enemies of man, and by all means to be destroyed. But I have come to look upon the crow as the friend and ally of the farmer.

For the past three years I have had a piece of corn in a very exposed situation, far from any human habitation, and close by a piece of woods where the crows have reared their young; but by surrounding and crossing the field with twine, all trouble with the crows has been avoided. Often have I seen them in flocks on the trees or fences close by the corn, but never did one dare to venture within the charmed circle; while some of my neighbors who ventured to leave their corn unprotected suffered greatly, and when the crows once got a taste of the corn, it seemed almost impossible to keep them away by twine or any other means.

When the corn was hoed the second time, the twine was removed; and when we returned to the field after dinner, a flock of crows was seen on the part which had been hoed, apparently searching in the freshly stirred soil for grubs and worms, which shows that these wary bipeds thought the danger was removed when the twine was taken down; and which also shows their usefulness to the farmer in destroying the insects and worms which are injurious to his crops.

Their value to the farmer in destroying the grasshoppers and other insects which frequent our pastures and meadows, is also great, and their destruction should should be looked upon as a calamity. I say, then, protect the crows and they will protect you. E. A. DAVIS.

Buckland, Mass., July 30, 1869.

REMARKS.—We are reminded by the above plea for the crow of some statements made in a letter that we recently heard read from the Rev. Chester Holcomb, a missionary at Peking, written in June, soon after his arrival there, and addressed to a Sunday school in this country. In speaking of the appearance and habits of the Chinese, he mentioned two commendable traits in their character—veneration of parents and ancestors, and kind treatment of birds. Birds there were as tame as chickens, and would come close to a person without any fear. Though in a city of some 4,000,000 inhabitants, he says "there are at least twenty sparrows' and swallows' nests, with two jackdaws' and three crows' nests, in the building in which I write. In one Chinaman's dooryard I saw a tree on which there were fourteen crows' nests and they were building another!" He also facetiously remarked that in one of his evening walks a crow helped him to a certain sound in the pronunciation of the Chinese language, which he had been trying in vain all the afternoon to catch from his native teacher.

The Chinese are skilful farmers. They have cultivated the same soil from time immemorial, without impoverishing it, and without having their crops destroyed by insects. Hence their opinion of the utility of birds is entitled to respect. Still we do not propose them as arbitrators of our crow question. It is possible that the habits of their crow may be different from ours, as his circumstances and training certainly are. In this country every one must act on his own convictions. But while doing so let us treat the opinions of others with a "decent respect."

A HOME-MADE FERTILIZER.

Is it not a little strange that farmers will buy the costly patent manures, when they have on their own farms all the elements necessary for the manufacture of an article equal, if not superior, to most of the phosphates and poudrettes in the market? Why is it that they have not engaged more freely in the home manufacture of fertilizers? Is it because they have given the subject no thought, or is it because they do not know how to do it? If the latter, I propose to give what light and knowledge my own practice may afford on the subject.

As soon as the busy season of haying is over, I go to a muck swamp and haul up two or three cords of the best muck I can procure; put it in some convenient place on the ground, or on a platform made for the purpose. Then I rake up all the loose chips and door-yard dirt, with that around and inside the buildings. Now collect all the brush and other rubbish from every part of the farm, pile it all in one heap and burn it. The muck, meanwhile, should be dug over in the sun until it is quite dry. Then procure a dozen good molasses hogsheads, which may be bought at the grocery stores for from fifty cents to a dollar each; or if these are not procurable, barrels will answer. Ashes from the burnt rubbish and elsewhere, are thoroughly mixed with this dry muck. It is then shoveled into the casks, which should always be kept under cover; mixing with it, meanwhile, all the vegetable and animal refuse on the place; all the dead animals, from a toad, snake or chicken, to a horse; all the waste blood, entrails, hair, feathers, &c., of animals slaughtered. At the same time save all the urine from the house and stables; all the soap suds and sink water; and dip up all the dark looking liquid that may be found standing in puddles in the low places of an uneven cow-yard every time it rains, and completely saturate the compost in the casks.

The next spring when you plant put from a pint to two quarts of this fertilizer in a hill, according to its strength, and you will not fail to raise such crops as you never raised before. **Home Made.**

South Berwick, Me., Aug. 4, 1869.

MODES OF TYING UP CATTLE.

I am building a barn in which I intend to stable fifty cows, and wish to learn the best method of tying them up. Is there a *swing* stanchion in use that is superior to the old fashioned way? As these cows are to stand twenty-five in a row, and heads together, I would like to know how I can have a water box constructed so that each cow can help herself at leisure, and not be in the way of feeding? **Jason E. Hunt.**

New Haven, Vt., July 28, 1869.

Remarks.—We have made pretty thorough experiments in all the usual modes of tying up cattle, beginning with the simple bow, made of wood; then the chains in common use; and, tired of these, tried stanchions. After using the latter a year or two, we substitued in their place a strong leather strap two inches wide. These soon became oily and soft from use, and it seemed, that the cattle were more comfortable with them than in any other mode of tying. They could lie down on either side, and had room to move about so as to change their position considerably. But as the stalls were arranged, this liberty caused occasional serious injury, as in moving about one cow would sometimes step upon the udder or some other part of one which was lying down. This might be remedied if more space were allowed between the cows. We had not this space to spare, however, and went back to stanchions, which are still in use.

There are some advantages in the use of stanchions over any other mode of tying. The work is more quickly and surely done. The cattle are kept cleaner. Having less freedom, they cannot hook nor rob each other, and are more under control while milking.

One inconvenience in the stanchion is, that cattle, when lying down, cannot get up easily in them. On rising they throw themselves forward and strike the shoulders, so that, occasionally, two or three efforts are made before the animal is on its feet. This may be partly obviated, however, by carrying the upper portion of the stanchions forward, so that they will stand at an angle, instead of perpendicularly. This will essentially relieve them in the act of getting up. Another change which gives them more liberty, is in leaving the space wider for the neck, at the bottom of the stanchions than it is at the top. This affords the animal more room to move the head about when lying down, and it cannot get it out when in that position.

A great objection to stanchions may be avoided by a proper arrangement of the floor when the barn is built. Cattle should feed from a floor a little higher than that on which they stand; at any rate, it should not be any lower, as it quite often is. This is done by raising the leanto floor, in order to get a trench to receive their droppings. When this is done, the sleepers of the barn floor should *rest upon the top* of the timbers, instead of being dropped into mortices. Then the barn floor will be nearly on a level with that upon which the cattle stand. With some care in the arrangements, stanchions will be found the best, we think, all things considered. We have seen the "*Swing Stanchions*" in use, and noticed the movements of the cattle in them. They certainly have a pretty large liberty when so tied, can step back and forward two or three feet, and have plenty of opportunity to tread upon each other, and *can lie down only* on one side! They did not strongly commend themselves to our judgment.

With regard to supplying water so that the stock can get it at will, you may find plenty of examples among your sheep raisers, that will be worth more than any description we can give. Please write and tell us what the advantages are of watering stock in this manner.

THE CULTURE OF PIGS.—AN ADDRESS WANTED.

There have been many articles in the **Farmer** in regard to raising poultry, neat cattle, &c., but no one has yet ventured to enlighten us on "pig culture." Will not some of your correspondents give us the *modus operandi?*

In reply to my question in regard to wheat culture (July 24th) you referred to Mr. Cyrus Kilburn of Worcester county. Could you, or the gentleman himself, give me his address? Strange to say, the town is not given by secretary Flint.

Franklin, Mass., Aug., 1869. F.

Remarks.—Breed from healthy animals. Give those of all ages—and especially the breeding sow—plenty of room, in-doors and out, and always opportunity to come to the ground; that is, not confined to a stone or plank floor. Never allow them to pass a night without a dry bed, and away from currents of cold air. Have their room well-vetilated. If they can have access to the sun, so much the better. Everybody likes the sun, man and beast. Keep their skins soft by rubbing or washing. They will do it for themselves if they have a fair chance. A hog goes into the mud for two reasons,—perhaps more. First, to get a plaster over him to keep the flies off; secondly, to take off the fine dirt or scurf from the skin with the mud, when he rubs that off. Feed with regularity, but *never so much* that any will be left in the trough. Give them occasionally a drink of pure water, especially in hot weather. Add a little fine salt to their food once a week.

Follow the above rules, and you will rarely or never have sick hogs, and they will give you as pure and wholesome flesh as that from any other animal whose flesh is used for food.

In the erection of pens, study convenience and cheapness. The pig will grow as well in a stye of hemlock boards as though it was panelled and gilded. He, too, wants space, convenience, air, sunshine, a place to rub against, and a dry bed. Give him these, but give the pen such form and place as will best suit *your* convenience.

Mr. Kilburn's address is Lunenburg, Mass., where he cultivates a premium farm.

A SICK AND DEAD HOG.

I had a valuable hog taken sick a few days ago, and to-day it died. The first I noticed was that it refused to eat, and black or purple spots came out all over it. The next day I gave it half a pound of salts, and the day following it died.

One of my neighbors had two hogs taken sick the same way a few weeks ago, and he gave them salts and turned them out where they could get on to the mud, and in a few days they got well. Mine was turned out where there were weeds and dry sand. In both of the above cases the hogs were kept in cellars under stables, where there was plenty of light and air. I should like to inquire of you or some of your correspondents what it was that ailed my hog, and also to ask for a remedy. Is a cellar an unhealthy place to keep hogs in? H. M. Brewster.

Curtis Corner, Me., July 23, 1869.

Remarks.—We have never seen a hog with the symptoms described, nor can we find any description of a disease in the books which corresponds with the symptoms given above. Perhaps some of our readers may be familiar with the disease described and can recommend a remedy.

We do not consider cellars that are dry, light, and well ventilated, unhealthy places for swine. In all the region about us, swine are usually kept in such places, and they are healthy and grow fast.

AN OLD HOP YARD.

S. R. Locke of this town has the oldest hop yard in this vicinity,—having raised hops on the same two acres fifteen years,—and now they are very thrifty, with no signs of running out. The crops for the last four years have been sold for $3,400, and the expense of raising and marketing has not exceeded $800; leaving a profit of $2600. In 1866 the crop was 21 cwt. at 30 cents per pound; in 1867, 24 cwt. at 44 cents; in 1868, 29 cwt. at 15 cents. The thrifty vines with their long arms give promise of a large crop this year.

Mr. L. makes very large hills and buries the surplus vines in the hills which are now one and a half feet high and five feet in diameter. He does not allow many runners to be taken from his yard to start new plantations, as he believes it weakens the vines.

HOME-MADE TURNIP SEED SOWER.

Here I saw a home-made turnip seed sower. A wheel eighteen inches in diameter is cut from a board. A wooden handle five feet long is attached by a bolt or axle to one side of this board wheel. On the other side of the wheel an old tin milk-pan is nailed bottom side up, (or out), and all cracks carefully stopped by putty. Holes are made in the sides of the pan close to the wire edge, which s fastened to the wheel, about one-eighth of an inch in diameter and six inches apart. This pan is the seed box, into which it is put through a hole made for that purpose in the wheel. By pushing this wheel along the ground the seed is scattered very rapidly and evenly, but it must be covered with a hoe afterwards.

OUR DAIRIES.

Some of the dairymen began to make cheese about July 15th, but before this date T. Baker of Barton, had made over 1400 pounds of butter, and Geo. B. Brewster about the same amount,—twenty-seven tubs. This tends to show that dairying is more profitable than wool growing, when butter and wool brings the same price per pound.

HAYING.

Haying will be mostly done in July this year. The crop will be a trifle less than usual on some lands, but about an average generally. S. R. J.

Irasburg, Vt., July 25, 1869.

A NOTION ABOUT WHITEWASHING.

I have made considerable use from time to time of whitewash for buildings, fences, hen houses, &c. The result of my experience is the conviction that no improvement has ever been made on the old-fashioned way of making it,—viz., a good clean lump of lime, slacked by pouring boiling water over it; cover tight whilst slacking; put in the salt afterwards. All the fuss about "sifting," "straining," "skimming," &c., is all bosh. Hogs' lard, rice flour, linseed oil, glue, &c, &c., lose all their essential properties when diluted in the corrosive liquid.

We know a lady who had made very successful use of whitewash about her house, who finally picked up a receipe something like the one given in the Farmer, out of somebody's "Domestic Economy Receipt Cook Book." The wash was for a "beautiful buff color," or something else. The vitriol, &c., was got at the "Potticaries" and the other fixings of the painter who was employed to put it on. Quite a large surface was "painted" in June. The result was, it remained till there came some heavy showers and rain storms, when the whole thing scaled off. The shingles or clapboards of a building kept well whitewashed with common whitewash will, apparently, last forever.

Chestnut Hills, Mass., Aug. 10, 1869. J. O. B.

SWINE IN CELLARS.—AGRICULTURAL COLLEGES.

Hogs.—Never keep them in a barn cellar, nor under a slaughter house. Reason—The effluvia and vitiated air causes disease. One-half of the pork that is sold, is only fit for *manure*. Let them have a house, and good open yard, with plenty of sods, loam and water; then health and good pork will be the result.

Agricultural Colleges.—The best are at home on the farm! What a puny race of farmers are ascending the stage. Nineteen-twentieths who go to college will never make agriculture their occupation. More farmers by practice, and a less number for giving advice. L. S. Bancroft.

Pepperell, Mass., Aug. 11, 1869.

BRINING WHEAT.—CULTIVATION AND VARIETIES.

It gives me great pleasure to know the "John's"—a good old apostolic name—are not all asleep. Now, my good "John," for the wheat pickle, use half a peck of salt to six buckets of water; stir in the seed wheat; skim off foul seed; let it stand ten to twelve hours; rake it in wood ashes or slaked lime, and sow when damp.

These alkalies are excellent fertilizers. They kill the weevil that must exist in the grain, the same as in the rice and the pea. Be sure to get it in two to three inches deep. *Root* and *stand* are the strong points against spring kill. If you are short of manure, turn over mowing land, which is a good fallow for grain. Sow it from the first to the tenth of September—sod wheat is really the safest.

The Amber is a good variety,—as are, also, the white wheats, which make the whitest flour. They have a variety of names; but the *eye* is the best judge of seed.

I have more than answered your correspondent, "John," and hope he will set such an example to his neighbors, that they may find their barrels of flour on their own farms, instead of the prairies of the West, where the average crop is far less than in New England, and attended with the same risks in raising. HENRY POOR.

Yonkers, N. Y., Aug. 15, 1869.

BLOODY MILK.

I have a promising three-year-old heifer, that I am milking this season for the first time, which has given bloody milk all summer. As she is the only one of six that is thus troubled, I cannot ascribe it to her food. I suppose giving bloody milk is a precursor of garget. I presume that many of the readers of the FARMER have had similar cases which they have treated successfully. I should like to hear from them through your columns.

Bridport, Vt., Aug. 12, 1869. INQUIRER.

REMARKS.—Give her six drops of the tincture of Aconite on some meal wet up with water, every other day for ten days. The old remedy with many was to give the cow a piece of poke root about as large as a hen's egg, by grating or chopping it fine and mixing with oats or other "mess." Mr. E. Keasor of Upper Gilmanton, N. H., recommended in the FARMER a few years ago for the garget, to take two pounds of sulphur and one pound of salt petre, pulverize the latter and mix them together; give one table-spoonful twice a day in shorts or meal until the compound was used up. Perhaps this might be beneficial in case of continued bloody milk, if the cause is similar to that of garget.

TO RID PANTRIES OF BLACK AND RED ANTS.

A few weeks ago I noticed in the FARMER, in the Extracts and Replies, a piece about getting rid of black ants in the house. As I think my mode better than the one there recommended, you may publish it, if you please. If the shelves or tables where they go are unpainted, wash them off in clean water, and without wiping, sprinkle fine salt all over them when wet. If the shelves are painted keep them *wet* for a few days with salt and water, using plenty of salt. One application is generally sufficient for the little red ants, but the black ants may need more than one.

MRS. R. C. WILLIAMS.

Paxton, Mass., July 26, 1869.

PASTURE LANDS.

I have a pasture, a part of which produces grass, while upon other portions there is a growth of brakes. Shall I plough it or shall I mow the brakes, and put on ashes and grass seed? How is the best way to deal with it?

Marshfield, Vt., 1869. CHAS. H. NEWTON.

REMARKS.—We don't know. It is just what we desire to learn, in order to work over our poor Massachusetts pastures.

If the land you speak of is stony, it would scarcely pay for ploughing and reclaiming it. If not stony, cut the bushes, or what is far better, pull them up, burn thoroughly, scratch over the surface with a harrow and sow grass seed. If you add one bushel of plaster of paris per acre, success will be more certain. Sow a variety of grass seed, such as timothy, redtop, a little red and white clover, Kentucky blue grass, and meadow fox tail. Sow somewhat more liberally than when laying down land to grass.

CURRANT WORMS.

It has been stated that by planting black currant bushes with the red, the attacks of the worms will be prevented. I had a large black currant bush at the end of a row of red ones that was badly infested with the small span worm and the brown ones. I tried the molasses remedy, and they seemed to like it very much. I next tried milk, but our kind of worms had evidently never been weaned, for they liked milk better than molasses. One sure remedy I have found. Go over each branch carefully, and take each worm with the thumb and finger, deposit it in some old dish, and when a sufficient number is collected put them in a good fire. This may be a slow, but it is a sure cure. A CONSTANT READER.

East Abington, Mass., July 28, 1869.

INSECTS ON PLANTS.—USE OF LIME.

Can you, or some of your subscribers, inform me how to destroy the small red and black ants that infest the garden and fruit trees?

Also, how to destroy the caterpillar on gooseberry bushes?

Do you consider lime good for raising crops?

A YOUNG FARMER.

North Sydney, Cape Breton, July 14, 1869.

REMARKS.—Syringe the plants with whale oil soap, or strong soap suds. Some persons contrive a sort of pipe in which they burn tobacco and blow the strong hot smoke from it among the foliage of the plants.

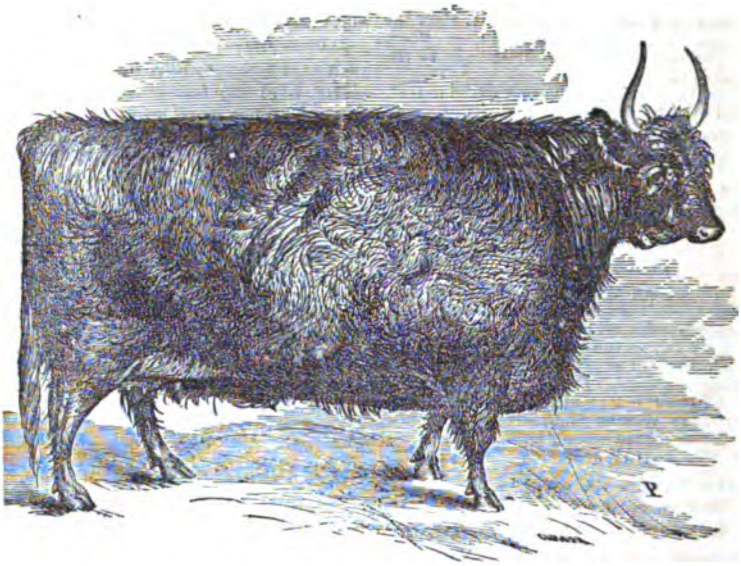
In relation to the use of lime, see remarks in reply to a correspondent, in another column.

KEEPING HAMS.

For the past eight or ten years we have kept ham nice and sweet through the summer and autumn as follows:—Cut from the bone, take off the rind and slice ready to fry. Put melted lard enough on the bottom of the tub to cover the wood: then a layer of ham, packed as closely as possible. With a spoon fill the spaces after packing each layer with hot lard When done, pour enough over the meat to cover it. Set in a dry, cool place. If left to stand long while being used, a little lard should be kept over the top to prevent mould. That fried from the meat is as good as fresh. Meat packed in this way is much better than if partially cooked before packing, and keeps quite as well; and the bones and fragments may be used before fly-time. MRS. D. H.

Lancaster, N. H., Aug., 1869.

—The Ayrshire cow Flora imported from England in 1859, and now owned by Wm. Birnie, of Massachusetts, from July 12 to November 1, 1866, gave an average of thirty-nine pounds of milk per day. Her food was corn fodder, grass, and, in October, cabbages.



WEST HIGHLAND COW.

We present the above cut of a West Highland cow as the representative of a race of cattle that have not as yet been introduced into this country. The portrait was drawn for Mr. Allen's book on American Cattle, by Mr. Page, who visited Yorkshire county, England, in 1867.

Mr. Youatt says, "The value of the West Highland cattle consists in their being hardy, and easily fed; in that they will live, and sometimes thrive, on the coarsest pastures; that they will frequently gain from a fourth to a third of their original weight in six months' good feeding; that the proportion of offal is not greater than in the most improved larger breeds; that they will lay their flesh and fat equally on the best parts; and that, when fat, the beef is closed fine in the grain, highly flavored, and so well mixed or marbled, that it commands a superior price in every market.

"The different islands of the Hebrides contain about one hundred and fifty thousand of these cattle, of which it is calculated that one-fifth are sent annually to the main land.

"About one hundred and fifty years ago, the treatment of cattle at the Hebrides was, with very few exceptions, absurd and ruinous, to a strange degree, through the whole of the islands. With the exception of the milk cows, and not even of the calves, they were all wintered in the field; if they were scantily fed with hay, it was coarse, and withered, and half-rotten; or if they got a little straw, they were thought to be well taken care of. The majority got little more than sea-weed, heather, and rushes. One-fifth of the cattle, on an average, used to perish every winter from starvation. When the cold had been unusually severe, and the snow had lain long on the ground, one-half of the stock has been lost, and the remainder have afterwards been thinned by the diseases which poverty had engendered.

"It proved the excellency of the breed, that in the course of two or three months so many of them got again into good store condition, and might almost be said to be half-fat, and could scarcely be restrained by any fence; in fact, there are numerous instances of these cattle, which had been reduced to the most dreadful state of impoverishment, becoming fattened for the butcher in a few months, after being placed on some of the rich summer pastures of Islay, Lewis, or Syke.

"The cows were housed during the winter; but among the small farmers this was conducted in a singular way—for one rude dwelling contained and sheltered both the family and the cattle. The family had their beds of straw or heath in the niches of the walls, while the litter was never removed from the cattle, but fresh layers of straw were occasionally laid down, and so the floor rose with the accumulation of dung and litter, until the season of spreading it upon the land, when it was at length taken away.

"The peculiarity of the climate and the want of inclosed lands, and the want, too, of forethought in the farmer, were the chief causes of this wretched system of winter starvation.

"As a beef animal, the flesh of the West Highland ox is considered of the best quality in the London markets, and usually worth 1*d*, or two cents per pound more than that of the ordinary breeds. He is usually put upon high feed at three years old, and in good pasture in summer, and a full allowance of turnips and meal, with plenty of hay or straw in winter, is fitted for the shambles at about four years old."

Mr. Allen believes that this race is admirably adapted to the immense ranges of mountain lands in the older States of the union, to the plains west and north of Missouri, in Texas, &c., and sums up their qualities by saying, they are an *original* breed, bred for untold centuries in one of the roughest climates; of great hardihood and endurance; homogeneous in their natures and habits; strong in blood, with a tendency and power to transmit it upon anything with which they may be connected. The cows are not fitted for the dairy, nor is it necessary they should be for the purposes to which they are intended, yet giving milk enough to rear their progeny well. They mature early, and when matured are full in all their points. They feed their pastures closely, are active in movement, capable of ranging over wide fields, gathering their subsistance without trouble, adapted to climates and soils where other cattle would glean a bare subsistence, and thus a valuable race to introduce into the regions of country which are above named.

He hopes yet to see the Highland cattle introduced into this country. By their introduction our far southwestern grazing regions which now send us only the ragged and comparatively worthless Texan cattle, and the far northwestern wilds which send us none at all, together with our intermediate mountain ranges, would ultimately—even shortly—furnish our interior rich lands with grazing material for the best of beef, and our markets would be supplied with the choicest of flesh for consumption.

ABORTION IN COWS.

Report of Wm. H. Carmalt, M. D., Commissioner of the New York State Agricultural Society for the Investigation of Abortion in Cows. Albany. 1869.

This is a well written report. The Commissioner and his assistants seem to have pursued their work with great diligence, and according to a well arranged plan. The results arrived at are, we are sorry to say, mostly negative. But some points would seem to be settled, and the field of investigation narrowed.

It is the opinion of the Commission that the disease is not caused "by reason of the introduction of a deleterious substance in the food," that is, they do not believe it is caused by *ergot*, or *fungi* on grasses or cereals. Many have believed that cultivated grasses were more liable to be infested with such parasites than natural grasses, and that hence cows feeding on hay, were more subject to the disease than when in the pastures. This is an important point disposed of.

It is also settled that cows are much more liable to the disease in the advanced months of pregnancy, especially after the sixth month. Cows once affected are more subject to be affected in subsequent pregnancies, which may be an additional reason for turning them to the butcher.

It has been suggested that changing cows from farm to farm during pregnancy might have a prejudicial effect. An examination into the facts in connection with such removals showed clearly that it is so. Is this owing to the fact that cows that have once aborted are sold during the next pregnancy to avoid probable loss?

The investigation shows that breeding from immature stock increases the tendency to abortion—the percentage of cases being greater in stock of this class.

But the most important matter discussed, as it seems to us, is, whether the amount of milk given by the cow influences the process of gestation. This discussion is conducted in a very able manner. It occupies some ten pages. The uterus and the udder are the two most important organs in reproduction. Each has its distinct function. That of the first is to protect and nourish the fœtus until its organs of digestion and locomotion fit it to be separated from the mother. Then the function of the udder comes into play, which is to furnish suitable nutriment to the young animal when separated from the mother.

Nature never intended that these two organs should carry on their functions at the same time. While the mother is carrying and feeding directly from her blood the young within her, she should not be required to feed another, or other animals, by secretions from her blood through the udder. This is an unnatural and excessive drain upon the system. Although habit, great care and abundant food enable a large part of the cows in a domestic state to endure this for a few years, yet very many fail to complete the reproductive process under this system—and the profitable term of life of almost all is shortened by it.

The cow, in a state of nature, ceases to give milk some months before the end of pregnancy. If compelled to give milk by constant milking and high feeding, in a certain number of cases the uterus refuses to continue to perform its function. The connection between it and the fœtus is separated, and the young dies, and is thrown off.

Nature does not allow her laws to be violated with impunity. It is becoming a practical question of great importance, whether high feeding and prolonged milking are on the whole profitable. We commend this Report to the careful attention of dairymen and stock raisers.

Greasing Wagons.—Few people fully appreciate the importance of thoroughly lubricating the axles, &c., of wagons and carriages, and still fewer know what are the best materials and the best methods of applying them. A well made wheel will endure common wear from ten to twenty-five years, if care is taken to use the right kind and proper amount of grease; but if this matter is not attended to, they will be used up in five or six years. Lard should never be used on a wagon, for it will penetrate the hub, and work its way out around the tenons of the spokes, and spoil the wheel. Tallow is the best lubricator for wooden axle-trees, and castor oil for iron. Just grease enough should be applied to the spindle of a wagon to give it a light coating; this is better than more, for the surplus put on will work out at the ends, and be forced by the shoulder bands and nut washers into the hub around the outside of the boxes. To oil an axle-tree, first wipe the spindle clean with a cloth wet with spirits of turpentine, and then apply a few drops of castor-oil near the shoulders and end. One tea spoonful is sufficient for the whole.—*Exchange.*

For the New England Farmer.

SUNFLOWERS.

A new interest appears to be awakened in Europe in reference to this plant by reason of the evidence that has been gradually accumulating for some years past, of its possessing medicinal properties. If we are to credit the tales that are told, it is a sure specific against intermittent fevers. M. Martin, in a paper read before the *Societe Therapeutique de France*, says, that the experiment of planting sunflowers on a large scale has heretofore been successful in the fenny districts by Rochefort, and has been proved by the Dutch to be beneficial in *neutralizing* the deleterious effects of marshy exhalations. M. Martin states that it is a proved fact, that the sunflower possesses the power of freeing the atmosphere from those germs, animal and vegetable, which are supposed to constitute the miasms that are productive of fever and ague.

If this be the case, is it not well for our fever and ague afflicted sections to be made aware of it? Much suffering might thus be avoided, and a new impetus given to immigration to those long neglected and fertile spots in the West and South, that have been pregnant with miasma.

Hitherto the culture of the sunflower has been quite limited in this country. Experiments serve to show that it is a valuable feed for poultry. It also yields a large return in oil. An Ohio farmer, several years since, averred that it would give more bushels of seed, year by year, than corn on the same surface. Admitting his statement to be true, we may from tables I find in an old encyclopædia, estimate the returns in oil that an acre will produce, planted after the manner the work indicates. One hundred plants are allowed to produce one bushel of seed, from which three quarts of oil are obtained. This would give us about forty gallons to the acre and leave us the refuse for feed, the value of which is not given. May not this refuse be as valuable as cotton seed meal?

My impression is, that the plants might, without detriment, be increased one hundred per cent. on an acre over and above the number stated, and the profits increased in the same ratio. The present facilities for extracting the oil over those in use fifty years ago, will also give us a much larger return than three quarts to the bushel.

But to return to the medicinal question, which is after all the one of greatest moment to us. The plant is easily propagated, and its seed can be mingled with the seed corn and planted at the same time, all over our extended country, resulting, it may be, in untold good to present and coming generations.

Aug. 10, 1869. K. O.

THE ORIGIN OF THE PEACH-BLOW POTATO.

Asa A. Shepherd, of Saratoga, N. Y., lays claim to being the originator of the "Peachblow" potato, and relates the history of its origin as follows:—

"I cannot fix the exact date, but about twenty-seven or eight years ago the Hon. Samuel J. Mott owned a farm opposite the Dean's Corners' store and post-office. Gilbert Wright traded there, and a young doctor boarded with him by the name of Colby. Not being crowded with business, the Doctor and Mr. Wright planted one-half of a lot belonging to Mr. Mott, and my father and his boys the other half. We planted a row of Merino potatoes in the middle of the lot, to turn on, so as not to break down the corn, and they planted a row of Western Reds by the side of ours. In the fall my brother John and I were coming across the lot and saw some fine looking balls on the Western Reds, and picked them My wife thinks she tied some together and hung them in the cellar. As to that, I do not remember. John lived at home with father, and I lived near by, but all were working together at that time. The next spring we planted the seed, John planting on father's place, and I where I lived. He beat me the first year, my place being too much shaded by a butternut tree. Five or six different kinds came from the seed; one was called the 'Shepherd Red.' They were a great deal larger the first year than the other kinds, and less liable to rot. For a few years they took the lead, but it was soon ascertained that they ripened too late to ship in the fall, so they were dispensed with. After we had raised them together for several years, the Hon Henry Holmes, now Superintendent of the Poor of the County of Saratoga, came and purchased a lot of all the kinds mixed together, and then picked out and planted by themselves those that we called 'Calico Potatoes.' In the fall he barreled up a few of them and drew them to the canal, at Coveville, to send to New York, to introduce them, and while there he wished to fix some name by which to call them. A man by the name of Verbanks, (a shoemaker.) and Captain Brazure, spoke of their looking like a peach blow. So it was agreed to call them by that name. Afterward my uncle carried some to Massachusetts, near New Bedford, where they were called 'Saratoga Potatoes.' They were also sent West, and to New Jersey. A few years ago a man by the name of Morgan Moe picked out some of the light colored ones and called them 'White Peachblows,' which are all the rage now among our neighbors. If any one is inclined to dispute the above facts, let him write to Thomas Sweet, postmaster, Dean's Corners, Saratoga County, N. Y.; or to Joseph W. Hill, lawyer, or Henry W. Dennis, hardware merchant—both the latter named gentlemen living at Schuylerville, N. Y."

TROUBLE WITH BEES.

Will you, or some of your subscribers who have had experience in keeping bees, inform me what is the trouble with my bees? I had a swarm come out four days ago which pitched on the top of a small apple tree. I placed a common box hive over them, letting the corner of the hive rest upon a staging which I put up for the purpose, and let it remain over them until the next morning, supposing they would go up into it as they always have when I have done so by them; but they did no such thing, but remained where I first found them. I then tried to "break them up," but they only moved their quarters from the top to the trunk of the tree, where they remained until last night, when I brushed them into the hive, and they stay there, but do not work or act as if they ever intend to. If any one will enlighten me on this subject they will confer a favor and oblige an—*Amateur Beekeeper, Brooks, Waldo Co., Me., June* 14.

The bees described above probably failed to realize, when the hive was first placed over them, that they had ever been hived at all, or might be. And when brushed in at last, they may have been perfecting their arrangements to go to the woods, and so were indisposed to commence operations elsewhere. But as the above appears to have been written within twenty-four hours after the bees were finally put into the hive, combs might have been commenced in the cluster, which could not be seen without shaking it down.

The case is a very unusual one, and if the bees still persist in remaining idle, I would suggest introducing a piece of comb containing young brood. This may be fastened to the top of the hive, or supported on an upright stick fastened in the bottom board, or in any way brought among the bees, and it would be very likely to set them to work.—*M. Quimby, in Rural New Yorker.*

STRONG.—It is said that the thread of a certain species of spider—found in the South—supports a weight of fifty-four grains. As this fibre is only the one four thousandth of an inch in diameter, this is at the rate of 123,427 pounds, or 61½ tons per square inch; good iron wire sustains fifty-seven tons per inch; good steel, sixty-six tons; good gun metal, eighty tons.

For the New England Farmer.

STANDARD OF MERIT AT FAIRS.

It is generally believed that agricultural societies are formed and hold fairs to encourage farmers to produce the best articles, and to furnish the means for comparison by which they may form an opinion as to which is best. If this is so, societies should make rules with the greatest care, so as to encourage and reward the really meritorious, and avoid commending and introducing aught that partakes of humbuggery or subserves private ends to the detriment of the public good.

If societies are formed to advance agriculture and aid the farmers, it would certainly seem that the rules which direct the action of committees in the bestowal of premiums, should also aid and direct farmers in the purchase and breeding of domestic animals. If this is a truth, do societies live up to it?

At the New England Fair, all cattle must have a pedigree to be entitled to a premium The managers of the Vermont State Fair have adopted the same rule. Now shall county societies and farmers encourage only those cattle that have a herd-book pedigree? Under this ruling, will these societies encourage the exhibition of the best cattle, or can they in all cases reward years of pains-taking in developing a breed? Will it not result rather in rewarding those who have purchased a fashionable or new breed from which to make money by sales? We ask these questions, first because there are men who have for a life-time been breeding a herd of pure-blooded cattle because they loved them, who are now cut off from showing and competing for premiums, though the animals thus excluded are above suspicion in regard to breed, and are better cattle than some with a pedigree. If it were not so, why rule them out and ignore cattle that the people want to see and the owners want to show?

In the second place, for years after Short-horn cattle were first introduced, there was not one in ten that had a herd-book pedigree, and until 1855 there had been only one volume of the herd-book published in the United States. Shall the descendants of all the early importations be ignored as unworthy of notice?

In the third place, sheep, swine, and horses are sold for high prices upon a personal warrant as to blood.

While it is proper and desirable that agricultural societies should discountenance deceit and false pretensions, it is equally proper and desirable that they should encourage honesty and excellency.

In Vermont there is a herd of Devon cattle owned and bred by H. M Hall, of Burke, President of the Caledonia County Agricultural Society. This herd was established about forty years ago. It was started with some of the first animals sold from the Patterson importation, and from time to time additions have been made from other stock of undoubted purity of blood. Mr. Hall has bred on his own farm two families, using the greatest care to prevent deterioration; but the animals are not recorded in the herd-book.

In Coventry, Vt., there is a herd of Short-horns, comprising twenty-five head, bred and owned by Hon. E. Cleveland and his son, H. C. Cleveland. This is believed to be the only Short-horn herd in the State where every animal has been bred by the owner. In 1858, Mr. C. sent by a special agent to Kentucky for some Durham heifers, which were obtained at quite a high price. A bull was bought in New York, of the Vail stock, and from this beginning a herd of great excellence has been bred, which has been shown at the State Fairs and received premiums as pure blood Short-horns. The bull *Major*, that stands at the head of this herd, is five years old and weighs 2320 pounds. The bull *Gen. Grant* is two years two months old, pure milk-white in color, and weighs 1500 pounds. One of the cows has weighed 1535 pounds. There have been many sales of young animals from this herd, at prices from $50 to $150 each, which are giving great satisfaction for vigorous, healthy growth, and excellent milking qualities in the heifers, and good stock qualities in the bulls. Eleven years ago there was less regard paid to herd-book pedigree, and these cattle have not been duly named and numbered, although bred with the greatest painstaking, and amidst a community whose prejudices were against them. Now, this herd having triumphed over local indifference and opposition and having gained a good reputation, find a new difficulty. Men who have within a very few years bought pedigree animals have succeeded in introducing a rule which excludes this stock from competing at the Fairs of agricultural societies! If these animals are inferior, they are not to be feared in competition; if they are better, is not the painstaking by which they have been produced entitled to encouragement? Is it pedigrees, or is it quality of cattle that we should encourage, and which farmers wish to buy?

Irasburg, Vt., Aug. 20, 1869. Z. E. J.

P. S.—Since writing the foregoing I have received the Premium List of the Vermont State Fair, and find that the Directors have made up an appendix, since the regular meeting, that provides for Durhams that are not registered in the herd-book. Z. E. J.

Aug. 24.

—Mrs. Alvira Robinson, of North Russell, N. Y., answers a question asked in the *Rural American* how to make butter from bitter cream by saying, when the cream is ready to churn, dissolve a little good sugar and add to it; the butter will then come in a short time. I think the cause of cream getting bitter is, that it is kept too cold while rising; the sugar helps to sweeten it.

Ladies' Department.

From Putnam's Magazine, for September.

THE BABY'S DRAWER.

There's a little drawer in my chamber
Guarded with tenderest care,
Where the dainty clothés are lying,
That my darling shall never wear.
And there, while the hours are waning,
Till the house is all at rest,
I sit and fancy a baby
Close to my aching breast.

My darling's pretty, white garments!
I wrought them, sitting apart,
While his mystic life was throbbing
Under my throbbing heart.
And often my happy dreaming
Breaks in a little song,
Like the murmur of birds at brooding,
When the days are warm and long.

I finished the dainty wardrobe,
And the drawer was almost full
With robes of the finest muslin,
And robes of the whitest wool.

I folded them all together,
With a rose for every pair,
Smiling, and saying, "Gem fragrant,
Fit for my prince to wear."

Ah, the radiant summer morning,
So full of a mother's joy!
"Thank God, he is fair and perfect,
My beautiful, new-born boy."

Let him wear the pretty, white garments
I wrought while sitting apart;
Lay him, so sweet and so helpless,
Here, close to my throbbing heart.

Many and many an evening
I sit, since my baby came,
Saying, "What do the angels call him?"
For he died without a name;
Sit while the hours are waning,
And the house is all at rest,
And fancy a baby nestling
Close to my aching breast.

For the New England Farmer.

HOUSEHOLD ECONOMY.

CONTRIBUTED FOR THE NEW ENGLAND FARMER.

Mr. Editor:—As the season for making pickles has arrived, some of your readers may like to try the

Yellow Pickle

of Virginia and Kentucky, an institution in which the accomplished housewives of that region have so just a pride.

To three gallons of good cider vinegar, put two ounces of turmeric sewed up in a guase flannel bag, which must be squeezed every day until the strength and color are exhausted. Then add to the vinegar two and a half pounds of brown sugar; two ounces of ground mustard seed; the same weight of cloves; the same of mace, and three ounces of cinnamon. Take half a pound *each* of ginger root, horse radish, garlic or onion, and long pepper; put them in a jar of very strong salt water and let it stand three days. Then take them out, and after rinsing in clean water, cut all up fine, except the garlic, which is left whole. Put all together in dishes, and dry in the sun two or three days. When quite dry, put to the vinegar, which in three days is ready. In the meantime, soak small, soft ears of corn, shred cabbage, small cucumbers, tender bean pods, &c., in salt water. If not too salt, simply wash them in fresh water, and spread on a table previously covered with two or three thicknesses of soft cloth, and lay in the sun, turning them over every hour till dry and white. A day will be sufficient to bleach the cucumbers and dry the other things. Add them to the vinegar; stir every day for a week; then tie up tight, and in three months the famous yellow pickle is ready for use.

Sweet Pickle of Ripe Cucumber.

Cut large ripe cucumbers in small squares; simmer them gently in alum water, in which is a little salt. When transparent, drain them and pour over hot vinegar, in which brown sugar, whole cloves, stick cinnamon, and mace have been boiled. A pound of sugar to a quart of vinegar. Spice to the taste and judgment, but not too highly.

Parsonsfield, Me., Aug., 1869. Mary.

Remarks.—We are greatly obliged to our correspondent for her seasonable hints. We hope our lady readers will not forget that we depend upon them to keep this department of our paper fresh, original and attractive. Ed.

DOMESTIC RECEIPTS.

Tomato Catsup.—Take ripe tomatoes, and scald them just sufficient to allow you to take off the skin; then let them stand for a day, covered with salt; strain them thoroughly to remove the seeds; then to every two quarts add three ounces of cloves, two of black pepper, two nutmegs, and a very little cayenne pepper, with a little salt; boil the liquor for half an hour, and then let it cool and settle; add a pint of the best cider vinegar, after which bottle it, corking and sealing it tightly. Keep it always in a cool place.

Sweet Pickle.—Select fine cantaloupe or citron melons, ripe but firm, pare and seed them, and slice or quarter them. Weigh the fruit, and to five pounds of melon allow two and a half pounds of white sugar and one quart of vinegar. The vinegar and sugar must be heated, well skimmed and poured boiling over the fruit six times. In the last boiling of the syrup add the spices; stick cinnamon, white ginger and a few cloves; and when the syrup boils, put in the citron and let it boil for ten minutes, then put it in the jars; skim the syrup clear and pour over it. The pickle may be made of other fruits.

Boiling Potatoes.—There is a great deal constantly said as to the best way to boil potatoes. The following, said to be an Irish mode, is no doubt, very good. It is said that in Ireland they always nick off a piece of the skin, put them in a pot of cold water, which is gradually heated, but never allowed to boil; cold water should be added as soon as the water begins to boil; when done, pour all the water off, cover the vessel with a cloth and in a few minutes they are cool enough for use.

FISH CHOWDER.—The best fish for chowder are haddock and striped bass. Cut the fish in pieces an inch thick and two inches square; take six or eight slices of salt pork; put them in the bottom of an iron pot, and fry them till crisp. Take out the pork leaving the fat; chop the pork fine. Put in the pot a layer of fish, layer of split crackers, some of the chopped pork, a little black and red pepper, a little chopped onion, then another layer of fish, split crackers and seasoning. This do till you have used your fish Then just cover the dish with water, and stew slowly till it is tender; thicken the gravy with pounded cracker; add catsup if you like. Boil up the gravy once, and pour over the fish; squeeze in the juice of a lemon. Add salt if necessary.

"SOMEBODY LOVES ME"

Two or three years ago, the superintendent of the Little Wanderers' Home, in ———, received one morning, a request from the judge, that he would come up to the court house. He complied directly, and found there a group of seven little girls, dirty, ragged, and forlorn, beyond what even he was accustomed to see. The judge, pointing to them (utterly homeless and friendless,) said, "Mr. T——, can you take any of these?"

"Certainly, I can take them all," was the prompt reply.

"All! What in the world can you do with them?"

"I'll make women of them."

The judge singled out one, even worse in appearance than the rest, and asked again, "What can you do with that one?"

"I'll make a woman of her," Mr. T—— repeated firmly and hopefully. They were washed, and provided with a good supper and beds. The next morning they went into the schoolroom with the children. Mary was the name of the little girl whose chance for better things the judge thought small. During the forenoon the teacher said to Mr. T——, in reference to her, "I never saw a child like that; I have tried for an hour to get a smile, but failed."

Mr. T—— said afterwards himself, that her face was the saddest that he had ever seen—sorrowful beyond expression; yet she was a very little girl, only five or six years old.

After school, he called her into his office, and said pleasantly, "Mary, I've lost my little pet. I used to have a little girl that would wait on me, and sit on my knee, and I loved her much. A kind gentleman and lady have adopted her, and I would like for you to take her place, and be my pet now. Will you?"

A gleam of light flitted over the poor child's face as she began to understand him. He gave her ten cents, and told her she might go to a store near by and get some candy. While she was out he took two or three newspapers, tore them in pieces and scattered them about the room. When she returned, in a few minutes, he said to her: "Mary, will you clear up my office a little for me, pick up those papers and make it look nice?"

She went to work with a will. A little more of this sort of management—in fact, treating her as a kind father would, wrought the desired result. She went into the school-room after dinner, with so changed a look and bearing, that the teacher was astonished. The child's face was absolutely radiant; and half fearful of mental wandering, he went to her, and said—

"Mary, what is it? What makes you look so happy?"

"O! I've got some one to love me! somebody to love me!" the child answered earnestly, as if it were heaven come down to earth.

That was all the secret. For want of love that little one's life had been so cold and desolate, that she had lost childhood's beautiful faith and hope. She could not at first believe in the reality of kindness or joy for her. It was the certainty that some one loved her, and desired her affection, that lighted the child's soul, and glorified her face. Mary has since been adopted by wealthy people, and now lives in a beautiful home; but more than all its beauty and comfort, running like a golden thread through it all, she still finds the love of her adopted father and mother.

Shall we who have many to love, and who love us, refuse to be comforted, to see any value and use in life, any work for our hands to do, because one of our treasures may be removed from our sight—from our home and care, to a better?

And O! shall we let any of these little ones go hungering for affection—go up even to God's throne, before they find one to love them?

THE WIDOWER'S WIFE.

Within the year the widower found consolation, and this time the wife was young and pretty—that is to say, she was generally so esteemed, being white, plump, hard, and crisp as a turnip just pulled from the ground. She was selfish, indolent, pettish, with small intelligence and no reason—a white, blind force. To be married was to be married; that was all she knew, except that it involved new dresses, a white veil and some flowers. After that she entertained some vague notion that generous living and all sorts of holiday delights flowed perpetually in of themselves, and that she, at any rate, had only to stand and wait. Her ideas of marital felicity underwent, in company with her fatalistic yoke-fellow, a singularly sudden transformation, and she went blindly bumping about her house like a bat when the sunshine is all at once let in upon it. "Leander, I want this;" and, "Leander, why don't you get me that?" "Mrs. So-and-so has it, and I want it and will have it!" These and such like were her staple of conversation. Before long came threats. "I'll go back to my father; see if I don't You might get me things like other folks! I always had sweet-cake at home! If you haven't got money, tell *them* to give you some! I'll have a blue satin dress and pearl ear-rings, or I'll go home to my father!" And her round white face would flounder among her pillows as she thus teased for half the night. And, sure enough, the threat got itself executed at last; and with a little white head, much like her own, rolling about on her shoulder, and a little bundle of blankets crushed in her arm, she one day took up line of march, leaving the cupboard bare.—*Alice Cary in Harper's Magazine for September.*

Marriage.—Marriage is to a woman at once the happiest or saddest event of her life; it is the promise of future bliss, raised on the death of all present enjoyment. She quits her home, her parents, her companions, her occupations, her amusements, everything on which she had depended for comfort, for affection, for kindness, for pleasure. The parents by whose advice she has been guided, the sister to whom she dared to impart every embryo thought and feeling, the brother who has played with her; by turns the counsellor—all, to be forsaken at one fell stroke; and yet she flies with joy into the untrodden path before her. Buoyed up by the confidence of requitted love, she bids a fond and grateful adieu to the life that is past, and departs with excited hopes and joyous anticipations of the happiness to come. Then woe to the man who can blight such fair hopes—who can treacherously lure such a heart from its peaceful enjoyment, and the watchful protection at home—who can, coward-like, break the illusions that have won her and destroy the confidence which love had inspired. Woe to such a man!

The Training of Children.—It is a fixed rule, under all circumstances, that the child must learn to obey. Obedience is the first step in education. The child must be submissive to a higher will and a more matured knowledge. By degrees he will soon find out the reason why. Take heed, however, that you do not forbid or command anything, if you can not or will not strictly enforce obedience; otherwise you introduce a laxity of principle into your action, which nothing can retrieve. Never give a command or prohibition with indifference.

Youths' Department.

TO-MORROW.

A bright little boy with a laughing face,
Whose every motion was full of grace,
Who knew no trouble, and feared no care;
The light of our household—the youngest there.

He was too young, this little elf,
With troublesome question to vex himself;
But for many days a thought would arise,
And bring a shade to the dancing eyes.

He went to one whom he thought more wise,
Than any other beneath the skies:
"Mother,"—O word that makes the home;—
"Tell me when will to-morrow come?"

"It is almost night," the mother said;
"Most time for my boy to be in bed;
When you wake up, and its day again,
It will be to-morrow, my darling, then."

The little boy slept through all the night,
But woke with the first red streaks of light;
He pressed a kiss on his mother's brow,
And whispered, "Is it to-morrow now?"

"No, little Eddie, this is to-day;
To morrow is always one night away;"
He pondered a while, but joys came fast,
And the vexing question quickly passed.

But it came again with the shades of night;
"Will it be to-morrow when it is light?"
From years to come he seemed care to borrow,
He tried so hard to catch to morrow.

"You cannot catch it, my little Ned;
Enjoy to-day," the mother said;
"Some wait for to-morrow through many a year,
It always is coming, but never is here."

THE MINISTRY OF THE DOVES.

On the shores of Southern Florida, and among the rocky islets, or "keys," of the Gulf of Mexico, there is a rare and beautiful bird, to which the name of the Zenaida Dove has been given by Prince Charles Bonaparte, the ornithologist. This creature is very beautiful in its delicate form, and in its coloring of a warm and rosy gray, barred with brown and white on back and wing; its breast bears a shield of pure and vivid blue, bordered with gold, its cheeks are marked with ultramarine, and its slender legs and feet are deep rose-color tipped with black nails. Innocent and gentle, like others of its tribe, this little creature flits to and fro, in small family groups, over the rocky islets, and along the warm, sandy beaches of the gulf—"Tampa's desert strand."

"On that lone shore, loud moans the sea."

There are certain keys, where it loves especially to alight, attracted by the springs which here and there gush up pure and fresh among the coral rocks. The low note of this bird is more than usually sweet, pure, and mournful in its tone. But the doves are not the only visitors of those rare springs. A few years since, pirates haunted the same spots, seeking, like the birds, water from their natural fountains.

It chanced one day that a party of those fierce outlaws came to a desolate key to fill their water-casks, ere sailing on some fresh cruise of violence. A little flock of the rose-gray doves—and their flocks are ever few and rare—were flitting and cooing in peace about the rocky basin when the pirates appeared; in affright, they took wing, and flew away. The casks were filled, and the ruffian crew rowed their boat off to their craft lying at anchor in the distance. For some reason, apparently accidental, one of the band remained awhile on the island alone. In a quiet evening hour, he threw himself on the rocks, near the spring, looking over the broad sea, where here and there a low desert islet rose from the deep, while the vessel with which his own fate had long been connected lay idle, with furled canvas, in the offing.

Presently the little doves, seeing all quiet again, returned to their favorite spring, flitting to and fro in peace, uttering to each other their low, gentle notes, so caressing and so plaintive. It may have been that in the wild scenes of his turbulent career the wretched man had never known the force of solitude. He was now gradually overpowered by its mysterious influences, pressing upon heart and mind. He felt himself to be alone with his Maker. The works of the Holy One surrounded him—the pure heavens hanging over his guilty head, the sea stretching in silent grandeur far into the unseen distance. One object alone, bearing the mark of man, lay within range of his eye—that guilty craft, which, like an evil phantom, hovered in the offing, brooding sin.

The sounds most familiar to him for years had been curse, and ribald jest, and brutal threat, and shriek of death. But now those little doves came hovering about him, uttering their guileless notes of tenderness and innocence. Far away, in his native woods, within sight of his father's roof, he had often listened in boyhood to other doves, whose notes, like these, were pure and sweet. Home memories, long banished from his breast, returned. The image of his Christian mother stood before him.

Those little doves, still uttering their low, pure, inoffensive note, seemed bearing to him the far-off echoes of every sacred word of devout faith, of pure precept, of generous feeling, which, in happier years, had reached his ear. A fearful consciousness of guilt came over the wretched man. His heart was utterly subdued. The stern pride of manhood gave way. A powerful tide of contrition swept away all evil barriers. Bitter tears of remorse fell upon the stone on which his head rested. And that was to him the turning-point of life.

THE ZENAIDA DOVE.

He rose from the rock a penitent, firmly resolved to retrace his steps—to return to better things. By the blessing of God, the resolution was adhered to. He broke away from his evil courses, thrust temptation aside, returned to his native soil to lead a life of penitence and honest toil. Many years later, a stranger came to his cabin, in the wild forests of the Southern country, a man venerable in mien, shrewd and kindly in countenance—wandering through the woods on pleasant errands of his own. The birds of that region were the stranger's object. The inmate of the cabin had much to tell on this subject; and, gradually, as the two were thrown together in the solitude of the forest, the heart of the penitent opened to his companion.

He avowed that he loved the birds of heaven: he had cause to love them—the doves, especially; they had been as friends to him; they had spoken to his heart in the most solemn hour of life! And then came that singular confession. The traveller was Audubon, the great ornithologist, who has left on record in his works this striking incident. In olden times, what a beautiful ballad would have been written on such a theme—fresh and wild as the breeze of the forest, sweet and plaintive as the note of the dove!—*Appleton's Juvenile Annual.*

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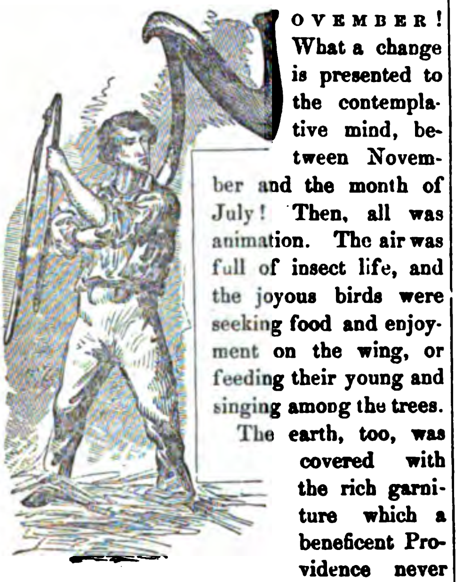
MONTHLY.

SIMON BROWN, S. FLETCHER, EDITORS.

NOVEMBER.

* * * "A cold blue horizon
Darkly encircles checkered fields and farms,
Where late the gold of ripening harvests shone;
But bearded grain and fragrant hay are gone,
And Autumn mourns the loss of Summer's dreams."



NOVEMBER! What a change is presented to the contemplative mind, between November and the month of July! Then, all was animation. The air was full of insect life, and the joyous birds were seeking food and enjoyment on the wing, or feeding their young and singing among the trees. The earth, too, was covered with the rich garniture which a beneficent Providence never forgets to bestow. The farm seemed full to repletion. The fields covered with grain, or grass, the ploughed lands dotted with sprinigng plants, green and fresh and flushed with new life. The little denizens of the air sung anthems of praise to those that dwelt below, and they sent back their song into the sky! What life, and joy, and beauty had sprung up in everything about us.

Is there less in November? To the outward senses, there undoubtedly is. "The last rays of the summer's sun now fall feebly on the earth. The country which so lately bloomed in vernal beauty and blushing charms, is becoming poor, withered and barren." No trees are in blossom; no fields gay with verdure; the leaves of the trees are falling, or are already drifting in the wind along the ground; the pines, the elms, and the oaks bend beneath the blasts of the north wind, and the fields are brown and bare!

The happiness of some persons is considerably diminished by these changes. When deprived of the delights which they receive through the medium of sight, all the wide landscape is deprived of its charms. The earth has lost its verdure, gaiety and beauty; the fields are swampy, and nothing is seen around but a rugged and uneven surface. Gloominess reigns!

Is this night? What will be the effect upon the mind and imagination, if such a train of thought and feeling are indulged in through a lifetime? Are there no compensations for these banished charms? Undoubtedly, there are many, very many, hidden things just as beautiful as the bursting spring or glowing summer, if we would diligently seek to find them. Some are, unquestionably, "past our finding out;" but we are created to seek knowledge, and God demands it of us just as much as He does the exercise of mercy and charity in our moral life. We have no right to allow the "talent" entrusted to us to lie idle, but should increase it by all proper means within our power, and yield it up at last to the Giver, increased, some fifty and some an hundred fold. How shall we do it. Let us see.

All Nature around us is full of the most gratifying instruction, but it will not unlock itself, unasked, and allow us to look into its hidden mysteries, without thought; attention, investigation, *work*.

Here, for instance, before you, is the grape vine, from which you have been plucking and eating delicious fruit.. It has *labored* all summer to produce it, and to afford you shade when conversing with friends. Now it is leafless, and its bare branches are swaying in the northwest wind. What does it propose to do? To mourn over its loss of fragrant blossoms, purple fruit and green leaves, or to use its powers to revive again, and be as useful and beautiful as ever? Look, now, into the axils of the leaves, and see what lies hidden there, close up to the parent stem. How full, plump, even! So smooth, shining, and perfect in form! What can they be? And here they are, everywhere, all up and down the vines! What are they but the promise of another year's blossom and fruit and shade, all compacted within a space no larger than half a pea! Ah, doubting man, take a November lesson from this.

And so with the fruit trees. They have already gathered their energies to be productive another year; have not procrastinated and doubted whether they could do anything or not, but have commenced in season and established the germs for another crop. How wonderful! And this has been going on while fruition was written on every branch, in clustering grapes or other fruits, all over the tree. Then commenced signs of decay; the fruit fell, with falling leaves, but the precious germ of future crops still grew and clothed itself with a case which is proof against all the assaults of weather, rain, hail, frost or snow! How wonderful!

Then the *reproduction* of plants would become a topic of the most gratifying interest to one who would earnestly seek a compensation for the glooms of November. And this is going on all the time. It is quite probable that trees are always active unless when frozen through. They lose no time, but work, work, whenever the power of frost does not bind them in its icy chains.

All have observed the *red snow* which sometimes covers the winter drifts for miles together, so that the view has been *red* instead of the usual white appearance. This is a minute *vegetable*, and perhaps the lowest example of vegetable life. It grows in substance, and has been supposed from its very rapid increase to have fallen from the sky. But it is not so. Each single cell of this *red snow* produces within itself a number of little particles, which are set free by the bursting of the parent cell which encloses them. These gradually enlarge, derive their nourishment from the air and moisture around, and in time acquire full size, and then produce a new family. So the white snow far and near is covered with what we call *red snow*, or more accurately, with a *large crop of vegetables growing on the snow in mid-winter!* How wonderful are the works of Nature! Who can be gloomy while the faculty exists to explore them!

So the lichen, which forms the winter food of the reindeer, grows entirely buried under the snow, and in the greatest abundance, too, as it is their sole support during a large portion of the year.

Finally, the man who has no resources within himself may murmur at these changes; but the philosophic mind contemplates them with satisfaction. The cold, and frost, and snows, bring blessings in disguise. "Whilst the earth has lost its beauty and external charms, it has commenced its labors anew, and is busily employed in secret working for the future good of the creation."

NOVEMBER WORK.

Among some farmers, November is a trying month for the farm stock, and especially so when the late summer feed has been short, and the hay crop is short. In order to save the hay, cattle are kept in the pastures and fields until the grass—if there is any—is dead, frozen in some portions of the day, and nearly destitute of nutrition. The cattle wander over the fields, nibbling the herbage, working hard all day, and come in at night hollow and hungry. In this condition they are not able to endure the searching winds, and growing poorer and weaker every day.

If you want animals tough and hearty through the winter, feed them well in November, and protect them from cold winds and storms. It is one of the worst things that can befall a young colt or calf to allow it to deteriorate in condition just before winter sets in. The period between grass and fodder is the most trying one for young stock of the entire year.

Banking the House.—Nothing is better than evergreen branches. Lay them a foot in thickness about the underpinning. Tread them down. The first snow that falls will be likely to fill all the space among them. If there is a fall in sufficient quantity, shovel it over the branches two feet deep, and the cellar will be kept from freezing and the whole house be warmer for it. This course is not half the labor that banking with earth is, and not a tenth part so dirty.

Look out for the Sheep.—Provide a warm room for them to pass in and out of as they please. Some farmers furnish a room with such ample light and ventilation that they do not allow them to go out at will. Sheep do not bear confinement well. It is their nature to roam. They do better in small flocks, as, indeed, almost all other animals do. They ought to have convenient racks to feed from, and enough of them to prevent crowding each other when feeding. Feed with roots occasionally; if a small quantity every day, so much the better.

Fattening Animals.—Do not delay this process. Feed often, a little at a time. Keep them warm and quiet. Keep the poultry clean and the young cocks by themselves, &c.

Bushes under Walls.—These are a nuisance in cultivating and harvesting. Clean them out, and do forty other things that demand attention in November, and among which the most important is to

Provide for the Kitchen plenty of dry wood, soft water, and every utensil which will make the work light, and every heart in the house cheerful.

—The city idea of farming is strawberries immersed in Alderney cream, and omelets from fresh eggs, and dews glistening in the morning sun, and waving clover tops, and that sort of thing.

For the New England Farmer.

WINTER MANAGEMENT OF STOCK.

An Essay read before the Concord Farmers' Club, by Mr. Elijah Wood.

It is now the opinion of most people, that no branch of farming compares in importance with the keeping and management of stock, especially in winter. The success of the farmer depends almost entirely upon it, in this latitude. Our farms have become exhausted of certain elements which must be restored by keeping stock, or by purchasing manure; and the latter is certainly out of the question, as experience has taught most of us. No good farmer will sell his hay for a succession of years, without buying its equivalent in some form as a fertilizer. Therefore, stock must be kept and managed so as to be a continual source of income. Many farmers depend solely upon their cows for support, selling very little from the farm but *their* products. The highest success depends on the care and attention they receive, and we all know that cows cannot give much milk without they are supplied liberally with good feed.

It is bad policy to keep too much stock for the amount of fodder on hand. One ton of hay given to one cow will produce more milk in a given time than if fed to two. The manure has more bulk and is better, because two animals have to be supported from it in the place of one; the labor is only half as much, and the capital is also reduced in the same ratio.

I have always found, while raising milk, that November was the hardest month in the year for that purpose, because it is "between hay and grass;" nights cold; days windy and chilly; grass frost-bitten; corn-fodder dry, and generally too much exposure of the cattle. November should properly be called a winter month in the milk business. Cows should be fed extra well then, to make them continue their flow of milk through the winter.

There are certain rules to be followed in order to succeed in any business,—so with successful stock feeding. Barns must be warm and well ventilated. It is not enough to close up tight just about the cows, exposing them to drafts of air when the leanto is opened for feeding, but the whole barn should be of one temperature, above freezing, with ventilators that can be regulated at pleasure. Cows must be well fed. They cannot do well on coarse kinds of fodder, meadow hay, &c., but must be given something fully as nutritious as the best feed in summer. English hay is the basis. Corn fodder, straw, meadow hay, cut and mixed with the different varieties of grain, according to their concentration and value, roots, &c., prepared in some way equivalent to summer food.

In my successful days of milk-raising—days of which there is no reason to find fault,—I studied to find out the most profitable way of keeping milch cows with the material at hand,—

which was often of rather poor qualities of fodder. I used to consider it unprofitable to cut good hay, or anything that the cattle would eat quickly without waste, but always found it advantageous to cut the second qualities—poorer hay and corn butts. Have gone so far as to weigh the entire feed for weeks. I found my cows would eat of long hay twenty-four pounds each, on an average, with four quarts of oil and cob meal, and that *eighteen* pounds of fine cut hay, mixed with the same amount of meal, and moistened with warm water, would satisfy them just as well, and insure full as much milk. I continued the cutting as long as I continued the business, and am a firm believer in it,—and steaming too,—provided the stock is large enough to keep a man employed all the time.

Regularity in feeding is of the greatest importance. Feeding only when you happen to be about the barn makes the cattle restive and never satisfied. I commence in the morning after milking, by giving the cut-feed mixed the night before, then pass them the hay or other fodder until they are full, (let it take a longer or shorter time) or about two hours, if the hay is good,—if poor a longer time; water, and let them remain quiet till noon, going through with the same change again. They most invariably drink well after eating, but if suffered to remain two hours will refuse water. Some farmers hardly ever turn their cows out in winter but water in the barn. The watering *there* I approve, because they will drink more from pails if it is pure and of even temperature, and their vicious neighbors do not disturb them; but in the yard the inferior ones are driven and hooked about, never having any peace. Exercise they need, if only for ten minutes each day, to give them the use of their limbs. I was convinced of the importance of their being moved each or every other day, from trials at another place some ten years since, where there were no conveniences for watering in the barn, but the stock must be turned into the yard, stormy or not. *They* came out in the spring looking much better; in better flesh; hair glossy and smooth; while at the home barn, where they were turned out sometimes once in three days, sometimes once a week, according to the variations in the weather, they did not hold their flesh as well; their exercise when out was too violent, they run and capered, and tore their hair off with their horns, making them look rough and forbidding. Too close confinement in the stable creates an itching or disease of the skin very uncomfortable to the animal, which can be prevented in part by a little airing every day and vermin do not trouble as badly. If ashes are sifted over stock when they are first confined in the barn in the fall, and thoroughly carded and exercised a little each day, no vermin will trouble of any consequence. Bedding should not be overlooked. Cut meadow hay or straw, or in their absence fine sand, answers a good purpose, and also keeps them from slipping when the floor is smooth, preventing accidents.

I have spoken more particularly of milk cows, but rules are just as applicable to dry and growing stock. Most of us are too neglectful of the last class, turning them off with the waste, and requiring most of the summer's run to grass to recover flesh in winter. I have been keeping from twenty to thirty-two working oxen for the past six winters and feeding upon corn fodder, meadow hay, millet, rowen, poor qualities of English hay, &c. They were such products as do not readily sell. I always looked after the stock myself, and they gained perceptibly, and some of them sold for beef in March. In the morning, at 5 o'clock, all the remains of the previous day's feeding, were cleanly swept from before them—mostly corn butts—and feeding commenced again with husks, three times, *a little at a time;* stalks twice, a bundle to a pair each time, meadow hay, rowen, clover hay once each, in all some eight or nine times; watered at 8 o'clock, and then let them stand, or turned them out if no other work was pressing. At noon they were fed three times on hay, and watered again at 1 or 1½ o'clock. Flint says in his treatise, that an animal will drink four-thirtieths of its weight in water. My twenty oxen, not worked, out of the twenty-six, drank, to-day, before half-past one o'clock,—three of them, seven pails each, or fourteen gallons, twelve pounds to the gallon, 168 pounds; nine, twelve gallons, 144 pounds; six, ten gallons, 120 pounds; and two, six gallons, 72 pounds; in all, 222 gallons—2,664 pounds.

How, or why is it that some farmers can carry their stock through the winter better on meadow hay than others will on English? Is it not the case? It is owing to the nursing, the regularity, the liberality, the judgment! Some farmers always have good cows, and others always poor. It is dangerous to recommend and sell to the last class, because they are always disappointed. You ought to tell them, when they buy, that you do not sell the keeping.

The Club need not be told that it requires very little judgment and skill to feed English hay alone, but much of both to make stock thrive on poor qualities of fodder. In the first case they may be fed in large quantities and at long intervals,—in the other, a little at a time and often, requiring much more time and patience. But the true rule is, to feed *often and a little at a time,* of all kinds of fodder.

—Now is the time to save the leaves and discarded grasses. Do not think they are valueless because so light. There is much substance for the weight, or rather much effect. The reason for this is that they afford a natural food for trees, shrubs and vines. Then gather the harvest of leaves, and imitate nature's wisdom.

For the New England Farmer.

THE GARDEN IN NOVEMBER.

Our notes for this month will necessarily be brief, as but few if any crops remain that will need attention. As long as the ground remains open, however, something can be done to save or forward work in spring. Drains may be laid, wherever necessary. Trenching or subsoiling stiff soils, exposing new surface to the action of the frosts of winter, will tend to ameliorate and enrich such soils, or rather loosen and set free elements already there, ready to be appropriated by succeeding vegetation. Much work indicated for past months may have lapped over into this, and should be attended to. In our New England climate few if any crops will remain to be gathered, yet if such there be they should be harvested at once.

Asparagus.—If not already done, the beds should have a good mulch of coarse manure spread over them. If the ground remains unfrozen, new beds may yet be made and the roots set.

Cabbage.—Those not gathered should be harvested before any more freezing. It is better to bury in trenches made in dry soil, heads down, covering the heads five or six inches, banking so as to shed water, any left out till now which it is desirable to preserve for spring, as after hard freezing they will keep better thus than if put in the cellar. Cabbage will endure considerable frost without injury; yet there is a limit to all things.

Celery.—This we suppose is all harvested, but should any remain, it should be transferred into boxes or barrels of earth in the cellar, or be buried out door where it can be got at conveniently, and not freeze hard.

Cold Frames.—See directions for their construction and use, in the following article. Put in cabbage, cauliflower, lettuce and such other plants as are to be wintered. Give plenty of air daily, closing in and banking up as the severity of the weather increases.

Manure.—Increase the compost heap by adding muck, sods, manure, slops and every thing that will help increase the store of plant food, as it will all be needed. Do not throw away any bones, but preserve and gather old bones, breaking them in pieces and pack them down in a close barrel, with good wood ashes, covering them well with the ashes, and keep them soaked with urine and slops from the chamber, and next spring the bones will crumble and may be mixed with the ashes, and you will have an excellent phosphate which will require care in using. Such is the practical observation and experience of the writer.

Parsnips and Salsify.—Leave the main crop in the ground through the winter, as frosts improve their quality. A few may be dug and buried in the cellar, if desirable, for winter use.

Prune, lay down, and protect grape vines and all other plants, shrubs, &c., needing winter protection. Gather in, under cover, all poles, stakes, frames, wooden appliances and implements, and see that they are well preserved. A little care will be well repaid in their prolonged durability.

W. H. White.

South Windsor, Conn., 1869.

For the New England Farmer.

COLD FRAMES.

Their Construction and Use.

Having received letters of inquiry concerning wintering cabbage plants for early spring planting, from some of the readers of the Farmer, to save correspondence, I propose to answer the same through its columns.

A cold frame is merely a box of boards set on the ground, banked up well all around, and covered with hot-bed sash, or sometimes with board shutters. Take two boards of equal length, corresponding to the amount of sash proposed to be used,—the back one a foot wide, and the front eight inches; set posts at the corners and nail to them; cut end pieces to match of length corresponding to width of sash,—say about three feet,—these are made fast. We now have a frame somewhat similar to a hot-bed frame, when we have put on cleats for the sash to rest on. Dig and make fine and mellow a bed in good, generously rich soil, sheltered from north and northwest winds, and place your frame on, facing the south or southeast. No manure is used for heating, as with the hot-bed, all the heat being received from the sun. The frame is banked all around securely with earth on the outside. Such frames are used for protecting cabbage plants, cauliflowers, lettuce, &c., in the kitchen garden, as well as for wintering pansies, carnations, roses and other half-hardy plants, where the advantages of a green house are not had.

To obtain cabbage and cauliflower plants for wintering, the seed should be sown in well prepared beds, in the open ground, with good protection from cold winds, &c., the last of September, in the Northeastern States. On the approach of cold weather they will have attained a growth of about two inches, when they should be transplanted into the cold bed, at a distance of two to three inches apart. The plants are almost hardy, and will stand considerable freezing without injury; yet they require a certain amount of care in cold weather, as well as during clear, pleasant days of winter. During the coldest weather they will need to have the sash covered with mats or board shutters, or both; and on mild days and even in clear days when the thermometer indicates 18° or 20° in the shade, they should have abundant air, by hoisting or taking the sash off entirely. The more this hardening process is attended to, the less danger there is of injury to the plants by sudden or extreme changes. Lettuce is kept in these frames with the same treatment, and transplanted into another frame early in March or April, and covered with glass. These extra beds are kept from hard freezing by deep coving with leaves, &c., during winter, and some days before the plants are put in, the sashes are put on to warm up the soil, after having it dug over, &c.

Plants of cabbage and cauliflower wintered in this way, make hardy ones, which may be transplanted into the open ground much earlier than they can be obtained in any other way and endure the season. W. H. WHITE.

So. Windsor, Conn., Sept. 27, 1869.

For the New England Farmer.

IMPROVEMENT OF A NEGLECTED FARM.

On publishing in the FARMER of July 31, some account of my farm and of its increased productions, which had necessitated the enlargement of the barns, the editor asks, "How did you set that ball in motion? How did you get the manure to start with?"

In reply, I would say, that in the first place I began by raking up all the waste straw, orts, cornstalk butts, weeds, and litter about the yards, scraped out all the holes and corners where manure or any thing to make manure of could be found. I then commenced a pile in the yard, by first a layer of manure, then one of straw, stalks, chip manure, leaves, weeds, or any thing of the kind I could collect, adding a little lime, plaster and salt. In this way I made as large a pile as I could, adding thereto all through the month of April every substance that I could collect of any manurial value.

By planting time I had compost sufficient, with two barrels of Bradley's superphosphate of lime, which I purchased, to dress four or five acres that I planted with corn and potatoes, both of which were good crops. Both the corn and the potatoes were planted on green sward turned over that spring. All that was ploughed the year before was seeded down with clover. As much stock was put upon the place as all the hay and grain it produced would keep, and a little was bought besides for feeding purposes.

The next spring—the present season—this corn and potato ground was also seeded down, on which, with other land seeded last spring, I sowed one hundred and twenty-five pounds of clover and two bushels of herds grass, seed.

Our grain crops for this season are all harvested and threshed. We had eighty bushels of wheat, seventeen of rye, two hundred of oats. We have some eight acres of corn that we shall commence to cut up to-day, and when we get the fodder in the barns we shall not have any spare room. We have sowed some ten bushels of winter wheat, and shall sow some more this week. Our potatoes are very good, and the corn looks very well for this year,—think it will be a fair crop. Our plums were good this year. We gathered several bushels last week that were very nice. Our pears are also good, and there will be some fifty bushels. We shall not have quite as many apples as last year, but there will be several hundred bushels, and they are nice and large. Our grapes are looking well; and if the frost holds off ten days longer, we shall have some as nice peaches as any man need eat.

Feeding Meadows.

Now a word in regard to feeding mow fields in the spring and fall. I believe it is cheaper to keep stock in the barn in the spring than in the mow field, and I don't believe that fall feeding the mow fields is generally advisable. To feed as some farmers do, perhaps a little fall feeding where there is a large growth would not injure the field, but to turn in soon after the hay is cut and keep the field gnawed down by cattle, sheep and horses, I think is a great damage. Some farmers will run an extra fence across their mowing field, so that they can get their cattle and sheep in before the corn is suitable to cut up, to save a few spears of grass that the frost might kill. I think it bad policy to have mow fields fed down so to leave the roots naked.

Time and Manner of Seeding Land.

There has been considerable said in your paper about sowing grass seed, particularly as to the time when sown on winter grain. I sowed mine last April, just after the old snow had left and immediately before a rain storm. Some waited till May, and put the harrow on and gave it a good harrowing. . I should be glad to hear from those that tried this experiment, as to its effect on the wheat. I got a good stock on mine. But I would be glad to know if harrowing up a field of wheat does it good. AMOS FRENCH.

Hartford, Vt., Sept. 13, 1869.

TO CUT OFF THE NECK OF A BOTTLE.—With a strong twine a yard or less in length, make one turn around the neck, rapidly move the bottle from one end of the string to the other, that the friction may heat the part; while hot, dip in cold water and the glass is cracked off as clean and smooth as if cut by a diamond. A few strokes or movements with the string are all that is required. A bottle may be cut in two by the same process, if strips of paper are pasted around it, to keep the string from slipping from the place desired.—*Rural New Yorker.*

☞ Wheat raising is rapidly on the increase west of the Mississippi, while east of that river it remains stationary, notwithstanding the increase of population and use of labor-saving machines.

THE CAMPBELL APPLE.

There are many Ohio apples sold in the Boston Market and eaten by New England people. The above illustration of one of the choice seedlings of that State is copied from the *Rural New Yorker*. It was an accidental seedling that sprung up about fifteen years ago close to the wall of a brick house occupied by George W. Campbell, Esq., of Delaware, Ohio. The tree is a vigorous, strong grower; habit open, spreading; limbs not crowded; shoots stout, rather blunt; foliage abundant, leaves rather large. It has borne a good crop regularly every year since it commenced bearing. Fruit quite uniform; size from medium to large, and hangs very finely to the tree. It is evidently a late keeper, but heretofore they have been "too good to keep" later than January.

BREEDING SHEEP FOR MUTTON.

The fine wool growers of France are laboring under even greater difficulty in respect to the low price of their product than are those of this country. The inspector-general of agriculture at the late exhibition of the Nancy Agricultural Society, reviewed the situation in his address, and ventured some advice that may not be inappropriate in many localities in this country. M. Lembezat said:—

"You know perfectly well, gentlemen, that for a long time past the principal profit which cultivators have sought in breeding sheep has been the fleece. At one period, when the use of cotton was little known—first in consequence of its dearness, secondly because cotton stuffs were considered less healthy, and thirdly because the custom of wearing woolen clothes was an old one—the production of wool was a very advantageous operation. At the time of the continent blockade, considerable fortunes were made in the Beauce, in the Brie, the Picardy, and in the Chatillonnais; and for a long time afterwards cultivators made money with their sheep, either from their wool or by the sale of reproducers. But a very prosperous industry which supplied Europe first and subsequently several parts of the new world, has spread in profusion the Merino breed, which, originating in Spain, had been improved in France, in a remarkable manner from the double point of view of weight of fleece and quality of wool. There is a limit to everything, gentlemen, and France, after having obtained considerable profits from the Merino breed, which it sold at very high prices, could not entertain the hope of keeping indefinitely a monopoly of wool and reproducers. This is just what has happened. New economic conditions have introduced certain changes into international relations at the same time that the mode and processes of manufacture have changed. All these circumstances combined have produced the present state of things. The present situation had been foreseen. Twenty years since M. Yoart, now in retirement, but then Inspector-General of the sheep-folds and veterinary schools of the State, said to sheep-breeders: 'Change your sheep breeds into butchers' animals; become producers of meat, for wool will fall to prices which you do not suspect or anticipate.' There was no question at this time, gentlemen, as to a treaty of commerce; but, nevertheless, M. Yoart, with his great experience, was perfectly right, and exactly predicted what has happened. The advice which was given years ago, we repeat, and we urge, with all our strength, intelligent cultivators to enter upon the path indicated by M. Yoart. We may add that it is more economical to produce meat than wool, and it is easy to give a proof of this fact. All those who have reared sheep know that with a special and suitable system of feeding, we can according to the breeds dealt with obtain in a year, animals weighing 130 pounds to 180 pounds, and often even more. What, under these circumstances, is the ratio of the fleece to the total weight? In no case can this ratio be more than 10 per cent., and you will see that wool must be worth ten times as much as meat to render it as economical to produce meat as to produce wool. I would say to you, gentlemen of the east of France, who have many districts in which sheep prosper, address yourselves frankly to the object which I indicate to you, and you will find that the maintenance of a flock of sheep may be an essentially profitable operation."

RACKS AND FEED BOXES.

Stock enjoys sunshine and out-door air as well as human beings, and neither one nor the other should be deprived of the luxury. But our barn-yards are often unfit places to feed hay, straw or stalks; and if fed there, much is often wasted. Might not cheap racks and boxes be provided for this purpose, such as every farmer's boy can make, which, with fodder at present prices, will pay? In reply to this question, we copy the following article and illustrations from a late number of the *Rural New Yorker*:—

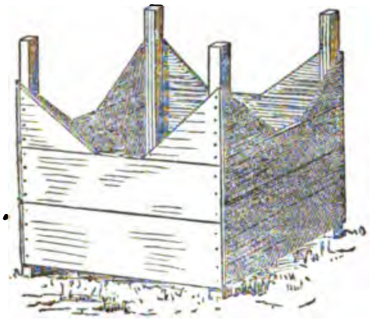


FIGURE 1.

We first notice Fig. 1. Though old, it cannot be too highly recommended. The peculiarity is that a few animals can quietly eat from it at the same time; therefore, to have all quiet in the barn-yard, provide racks for the accommodation of all stock at the same time, thus placing the weaker on an equal footing with the stronger in respect to the allowance of food to each. Place the rack under shelter, although the general health of the animals would be greatly improved if the arrangements were such as to feed them in open air on pleasant days, and under shelter during inclement weather. The heaviness of the racks prevents their being carried to and fro. This may be obviated by providing a double number of them, or making, in the open air, one similar to that shown in Fig. 2. A pole, B, is supported near its ends upon crotched sticks driven firmly in the ground; across the top of pole B, rest poles whose lower ends are driven in the ground, crossing each other at the angle shown. Hay, straw, corn stalks and other coarse fodder are thrown in the rack. No specific length or size can be given; it should be governed by the size of the animals desired to feed from it.

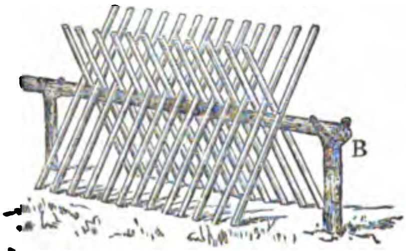


FIGURE 2.

A still cheaper plan of rack is given in Fig. 3. Through the space between the third and fourth rails of a common board fence is placed a number of small poles, secured in the ground at the opposite side. For keeping apart the poles any desired distance, bits of boards are nailed on. They should extend and be nailed to the fourth board. Hay is placed between the fence and upper portion of the rack.

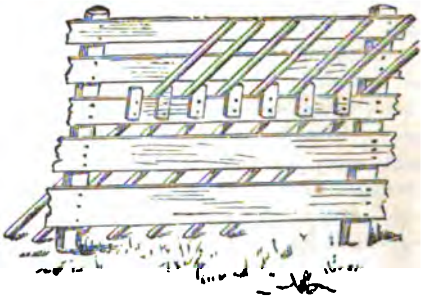


FIGURE 3.

Feed Boxes.

During the fall and winter many farmers feed their cattle on cut straw, roots grain, &c., for the purpose of fattening; and in a pecuniary point of view it is profitable. Cattle during the winter and spring are greatly benefited by an occasional mess of cut hay or roots.

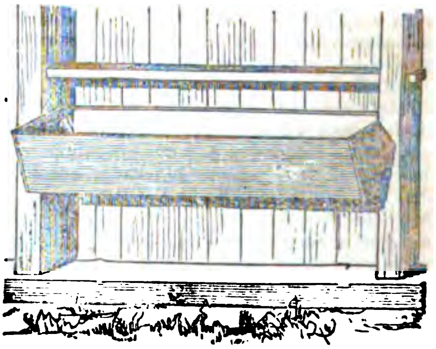


FIGURE 4.

Fig. 4 is a perspective view of a feed box, of a length equal to the distance apart of the posts to which it is secured by nailing; the bottom board is one foot wide; sides one foot high, sloping outward as indicated by the end pieces; partitions will be necessary when more than two are fed at the same time. Often it is not convenient to feed under shelter;

for want of room in this case, it is well to arrange a box similar to that shown in Fig. 5. A stake is driven in the ground near the fence to which the box is nailed. This may be objected to on account of its requiring to be cleaned after a storm. This may be obviated by the arrangement shown by Fig. 6, where the box is represented as bottom up, for the purpose of cleaning it. It was inverted by removing a wooden pin from the hole in the post above K. The dotted lines and arrow indicate the way it was turned. When in this position neither rain nor snow can get into it. It is so clearly shown in the figure that a further description is unnecessary.

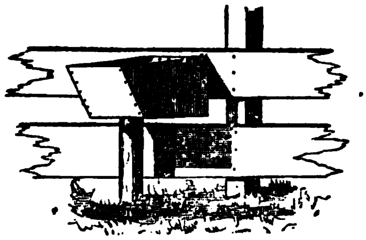


FIGURE 5.

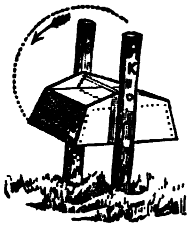


FIGURE 6.

EQUISETUM ARVENSE.

Horse-tail, Colt's-tail, Pine-weed, Mare's-tail, Polypod, &c.

We publish on another page a valuable paper, detailing experiments in the use of this weed with hay fed to horses. In Dr. Hayes' report of the result of his analysis of the plant sent to him by Mr. Fairbanks, as "Colt's-tail, or Fox-tail," and which it was supposed caused the death of a valuable horse, it is remarked that the botanical name of the plant was not known. We think it a little singular, and it is certainly to be regretted, that the expense of a careful analysis should have been incurred without ascertaining this fact. Common names are entirely unreliable. We presume—but of course we are not certain—that the plant analyzed is the same that is also known in some sections as Horse-tail, in others as Mare's-tail, as Polypod as Pine-weed, from its near resemblance to a miniature pine tree, &c.

In reply to an inquiry in relation to this plant, some four years ago, we were misled by our correspondent's use of the word Mare's-tail, to the conclusion that its botanical name was *Hippuris vulgaris*. Our attention was called to this mistake by Mr. Wetherell of the *Boston Cultivator*, and we are now satisfied that it is *Equisetum arvense*. The scouring rush belongs to the same order. This genus of plants are noted for the large amount of silex they contain. In some cases its ashes have been found to be one-half silex by weight. Hence the plant would seem to be far better fitted for the gizzard of poultry than for the delicate and somewhat peculiar stomach of the horse. And it is therefore possible that the deleterious effects ascribed to its use may be mechanical rather than poisonous.

Judge J. W. Colburn, of Springfield, Vt., late President of the State Agricultural Society, in a communication to the *Boston Cultivator*, in 1865, says, "when dried with the hay it becomes hard and brittle. It needs ruminating animals to prepare this dry, wiry substance for digestion. Sheep and horses eat it with a relish, but it is fatal to horses when fed indiscriminately with hay, particularly where it is liberally intermixed. It causes a stoppage in the bowels, induces blind staggers, and often kills the animal. I lost two, and saved three by veterinary treatment before being fully assured of the cause." Judge Colburn says it is known in his neighborhood as the Pine-weed.

A correspondent of the New Hampshire *Journal of Agriculture* for 1865, who had three horses sick with this disease in a single week, one of which he was obliged to keep in a swing for several days, says, "It is difficult to tell how this plant operates upon the system of the horse, but its effects are decided. The hind legs refuse their office as if paralyzed. The eyesight is affected, and the horse shies and steps back as if scared by some object in front. The bowels refuse their office, as also the urinary organs; the blood is black and thick, becoming almost like liver as soon as passed from the veins, and the animal becomes prostrate in a few days unless relieved by proper treatment. We recommend bleeding upon the appearance of the first symptoms, for temporary relief, after which the bowels must be opened by giving bran mashes, green feed, &c. Then give a ball made of the following: Barbadoes aloes, one ounce; pulverized ginger, one drachm; pulverized gentian root two drachms. Mix with molasses sufficient to form the ball. Give no food for four and twenty hours. Give small quantities of water frequently after the recovery of the animal. The animal should be fed very sparingly and not exposed to the hot sun." This writer says that the plant was called Polypod by some of his neighbors.

How then shall we account for the fact that hay containing more or less of this weed is fed every year, and still so few horses are made sick by it that many farmers, even in sections where it grows in considerable quantities, have no faith in its injurious effects? Possibly in ordinary seasons there may be sufficient succulent or laxative properties in the hay, or other food, to counteract the constipating effect of this weed. We should be pleased to publish a more full expression of the views of Dr. Weeks, or others of the readers of the FARMER, on this point.

THE CHEESE FLY.

The only excuse for skippery-cheese, of course, is want of care. Cheese in hot weather should be closely examined every day. They require to be turned once a day in order to facilitate the curing process. The bandages and sides are to be rubbed at the time of turning in order to brush off or destroy any nits of the fly which may happen to be deposited about the cheese. If there are cracks in the rind or if the edges of the bandage do not fit snugly, they should at once be attended to, since it is at these points that the fly is most likely to make a safe deposit of its eggs. The cracks and checks in the cheese should be filled up with particles of cheese that have been crushed under a knife to make them mellow and plastic. When once filled, a strip of thin tough paper oiled and laid over the repaired surface will serve as a further protection of the parts. The cheese in the checks soon hardens and forms a new rind. Deep and bad looking checks may be repaired in this way so as to form a smooth surface scarcely to be distinguished from the sound parts of the cheese.

Some dairymen think that a darkened curing room is best for cheese, and at the same time is the best protection against the fly. We think this is a mistake. Cheese cures with the best flavor when it is exposed to light, and besides it can be examined more minutely from time to time, and freed from any depredations of skippers.

August and September are generally the worst months in the year to protect the cheese against attacks of the fly. Some years the trouble is greater than others, and various means have been resorted to for the purpose of avoiding the pest, such as rubbing the cheese over with a mixture of oil and cayenne pepper. These things generally do not amount to much and are not to be recommended. Whenever a lodgment of skippers has been made, they must at once be removed. Sometimes it will be necessary to cut down into the cheese and remove the nest with the knife, but if the colony is young and small in numbers, a thick oiled paper plastered over the affected part so as to exclude the air, will bring the pests to the surface when they may be removed. The oiled paper should again be returned to its place and the skippers removed from time to time, until all are destroyed.

If skippers begin to trouble the cheese, the best course to be adopted is to commence at once, and wash the ranges or tables on which the cheese are placed with hot whey. This will remove all accumulation of grease and nits about the ranges, giving a clean surface which does not attract the flies. If the cheese also are washed in hot whey and rubbed with a dry cloth, the labor of expelling the trouble from the curing rooms will be greatly facilitated. We have seen this course adopted with entire success in many instances, when much time and labor had previously been employed without effecting the desired object.—*X. A. Willard, in Western Rural.*

For the New England Farmer.

HORSE-TAIL, FOX-TAIL, COLT'S-TAIL.

Perhaps I might say a word, partly in answer to a short article which appeared in the FARMER of July 31, in regard to the result of the analysis of the herb known as fox-tail, or colt's-tail, by S. D. Hayes, chemist, Boston. He found nothing "poisonous" in the weed, and hence the conclusion that the horse may eat it without any deleterious effects upon the animal economy.

Having resided a few years in the valley of the Connecticut, where the weed grows in abundance, I instituted a few experiments which led me to believe that it has, at least, very powerful therapeutic or symptomatic,—if not poisonous,—effects upon the horse. My attention was first drawn to the subject by the peculiar sickness of my own horse, resembling megrims, or blind staggers, with the premonitory symptoms of apoplexy, i. e., giddiness, staggering, loss of appetite, head depressed, and in a half-unconscious, or stupid state, balancing from one side to the other, &c. I was also informed that some of my neighbors' horses were, and had been, affected in like manner, and, as was thought by some, from eating the "colt's-tail." One farmer in particular, who owned an island in the river on which the weed grew luxuriantly, had suffered considerably. I immediately examined my hay, and found quite a quantity of the "colt's-tail" mixed with it.

The treatment I adopted was rest, abstinence, and a change to clean hay, and in three days my horse was well,—lively as ever.

Not exactly relishing the idea of losing my hay, and having a little doubt in reference to the "colt's-tail" theory, after a few days I commenced feeding the weedy hay again, and in about one week found my horse pretty "tipsy" again, or with the same symptoms as before, only aggravated. Treatment, as at first, with same result. This horse was about ten years of age, nervous, and of high mettle.

Thinking that possibly there might be some idiosyncrasy, or peculiarity about this horse that rendered him more susceptible to its effects than other horses, I fed this weedy hay to two young horses—four years old—and in a few days they exhibited the same marked symptoms, but in less degree; one being affected a day or two before the other.

My doubts were now somewhat removed. But in revolving in my mind wherein I might have arrived at an erroneous conclusion in the premises, it occurred to me that, possibly, there might have been some other article in the hay that produced this effect. I was, however, quite cautious about purchasing hay containing *colt's-tail* for a year or two, but at length was "caught" by buying a mow, the bottom of which I could not see at the time, and which proved to be pretty thoroughly mixed with it. This gave me the opportunity of trying the herb again, in full doses, and, as I glory in being an allopath, I gave this heroically. I came near paying dearly for my presumptuousness. However, the old horse (the "General") is still alive and is doing me good service, but he has eaten no more colt's-tail from my feeding.

Suffice it to say that in this last case the symptoms, treatment and result were nearly the same as in the first experiments; except that in the last, bleeding from the mouth might have been resorted to.

I have since had occasion to notice the same effects upon the horses of others, in a number—I might say very many—instances. And as this weed grows in profusion in the valleys, and to a limited extent upon the highlands in this section of country, I think, (if my experiments, observations and conclusions are correct,) that a timely caution in regard to the feeding of it may be of practical utility to those who have the care of so noble an animal as the horse. And although my experiments may appear, at first, to militate with the analysis of Prof. Hayes, yet I think it may not be impossible to reconcile them.

I would say, further, that cattle and sheep seem to eat this weed with impunity, so far as I know.

W. A. WEEKS, M. D.

Walden, Vt., Aug. 16, 1869.

AGRICULTURAL ITEMS.

—A correspondent of the *Western Rural* cautions farmers not to feed string beans, cooked or uncooked, to hogs. He says they will surely kill them.

—A correspondent of the *Western Rural* has cleared his own hands and those of his friends from warts, by rubbing them with chalk a few evenings before going to bed.

—There are some large farms in New England. Col. David M. Clough, of Canterbury, N. H., has a field of corn of twenty-two acres, and another of oats of seventeen acres, and will cut 150 tons of hay this year.

—It is said that the introduction of the waters of the Mediterranean to the lakes by the Isthmus of Suez, has sensibly increased the hygrometric humidity of the atmosphere, and that fogs, as dense as those of Paris, have been observed in the rainless district.

—Cows sometimes get a surfeit of grass, especially in wet, warm weather, when the grass is succulent and rich. This feed distends the bowels uncomfortably. An armful of hay once a day will serve to absorb some of this moisture, and benefit the cow in several respects.

—Of the students in the Cornell University last year, there were engaged in Agriculture, thirty; Arts, forty; Chemistry, ten; Elective, eighty-one; Engineering, thirty-nine; Mechanic Arts, twenty-seven; Natural Science, fourteen; Philosophy, twenty-eight; Science, 143.

—The *Canada Farmer* says that the natural course of vegetation does not exhaust, but rather enriches the soil by eliminating plant food, and restoring it to the land in decayed vegetable matter. It is the artificial method of growing crops and *removing* them entirely from the land, without any return that impoverishes.

—A correspondent of the *Country Gentleman* says that hand friction—always rubbing down—will certainly keep wind galls from increasing, and if well applied for half an hour at a time, twice a day, will remove a new one, or materially check one of long standing.

—An Illinois correspondent of the *Country Gentleman* mentions, as observed facts, that if the wheat ear is not fully grown and the kernel therein fairly formed by or before the first week in July it will never fill with sound grain; and that if corn is not ripe by the first day of September it will not get ripe at all.

—A correspondent of the *Western Rural* says that Carbolic acid solution, (six drachms of the pure acid dissolved in one gallon of water,) is a cheap, harmless and certain preventive against the ravages of the bugs on vines. The yellow striped bug seeks other quarters immediately after it is applied. Wet the vines with the solution and pour a little at the roots of each stalk. I have used it on my cucumbers and Hubbard squash vines this season with the best results.

—A correspondent of the *Western Rural* says that a few days ago on the farm of E. Kellogg, in the town of Cuba, Lake Co., Ill., a boy while raking hay pulled out of the ground a clover root that measured six feet and four inches in length. The root parted before leaving the ground; how much remained he was unable to state.

—The consumption of beef in the United States is estimated at 2,000,000 tons per year, while in France it is only 900,000 tons for an equal amount of population. Everything in the meat line that can possibly be utilized for food has been made use of in France, and the most learned savans are continually employed in exploring the field for additional sources of supply.

—A writer to the *Boston Cultivator* states that, having moved his barns the past season to some distance from the trough where the animals had formerly drank, a considerable stream of water during a freshet flowed between the barn and the old watering place. On turning the cattle out the first morning after the freshet, several of the larger ones passed over the stream to drink, though the water was so deep that they had to swim.

—The *Western Rural* says that spring wheat is very extensively grown in Illinois, Minnesota and Wisconsin. The favorite varieties are the Canada Club and the Canada Fife; while the Rio Grande, China, Australian, and several new varieties introduced by the Agricultural Department, are highly spoken of. In Michigan the Diel, Treadwell and Tappahannock are highly esteemed varieties of winter wheat.

—Mr. E. W. Potter, of Greenfield, Mass., it is said. has a grade Short-horn cow, ten years old and weighing 1400 pounds, which came in about April 1, and after being turned on pasture, about May 20, gave 68½ pounds of milk in one day, and July 12, was giving about 30 quarts of milk. The family used one quart of milk daily. From the rest there was made in one week 18 pounds, 9 ounces of butter.

—Dr. E. M. Hale, of Chicago, read an essay before the Cook County Homeopathic Society, on the poisonous effects of the potato bug on the human system. He thinks the poison in the Colorado potato bug is among the most virulent in the animal kingdom; that it is *volatile* or that it may be volatilized by the action of heat, which is not the case with the poison of *cantharides* or any other animal poison.

—An English writer says that soft eggs are generally caused by over-feeding the hens, and the remedy is then self-evident. It may, however, occur from want of lime, which must of course be supplied, the best form being calcined and pounded oyster-shells. Occasionally it is occasioned by fright, from being driven about, but in that case will right itself in a day or two. If *perfect* eggs are habitually dropped on the ground, the proprietor should see whether the nests do not need purifying.

EXTRACTS AND REPLIES.

CHESTER COUNTY HOGS.

Much is said and written about *thoroughbred* Chester County hogs. Is there such a breed of hogs? F. F. Fisk.

Mast Yard, N. H., Aug. 21, 1869.

Remarks.—The answer to this question might perhaps depend somewhat on the definition given to that loosely used word "thoroughbred." Worcester defines thoroughbred as an animal "produced by parents of pure blood on both sides." In defining what is intended by the expression "a thoroughbred horse," Stonehenge says, "the horse which is entirely bred from one source is pure from any mixture with any other, and may be a pure Suffolk Punch, or a pure Clydesdale or a pure thoroughbred horse. But all these terms are comparative, since there is no such animal as a perfectly pure bred horse of any breed. * * * Even the best and purest thorougbreds are stained with some slight cross with the old English or Spanish horse; and, therefore, it is only by comparison that the word pure is applicable to them or any others." This may help us to an answer to our correspondent's inquiry,—there is such a breed as the *comparatively* thorough-bred Chester County hogs! But from the statements that we have seen by those who have received animals from breeders in Chester County who have advertised them for sale, it would seem that the word comparative would be as convenient in describing the appearance as the blood of the breed.

We have seen a statement that this breed was originated some forty years ago by a cross between the best native stock of the county of Chester, Pa., and a boar imported from Bedfordshire, England, by a Capt. Jeffries. In an article on the "Large Breeds of Swine," by Sanford Howard, published in the *Country Gentleman*, in 1866, it is said, "The Chester County, or Chester White hogs have received a large share of attention in the agricultural papers of late years. They have been kept in Chester county, and other districts of Pennsylvania, for many years. Those which have been latterly sent over the country under the name above given, vary much more in their points than those I saw twenty years ago. The old stock may be described as follows: Head large; the nose or snout thick, but not long for the size of the animal; the ears large, thick and flapping; the body rather long, and tolerably round; the back generally hollowing, frequently with a considerable depression immediately behind the shoulders; the legs generally large in proportion to the size of the body, and in fat animals frequently giving way so much as to bring the dew-claws fully to the ground; the skin rather thick, and covered with long, wavy bristles. Many of the hogs now called

Chesters, or Chester-whites, have upright and somewhat thin ears, less bristle, thinner skin, and less coarseness of bone than the old stock, plainly indicating a cross with some finer breed.

RAISING POTATOES FROM SEED BALLS.

I wish to inquire through the FARMER the proper way and time to plant potato balls, in order to start potatoes from them. JNO. L. FRYE.
South Danville, Vt., Aug. 16, 1869.

REMARKS.—After gathering the balls in the fall, they may be kept in a dry place in paper bags, or in a box of sand packed as hens' eggs are in oats or chaff If you wish to have them grow as large as possible the first year, it will be well to plant the seed in a box of fine earth the last of March, or first of April, and keep them in the house, as you do tomato plants, till all danger of frost is passed, say till into June, when the plants may be put out in the open ground. In order to lengthen out the season, it may be well to protect vines from early fall frosts. In this way some of them may attain to nearly the size of hens' eggs the first season, but most of them will be much smaller. The next year they may be planted in fine, rich soil, the same as other potatoes. They will not be uniform in appearance or character, and Mr. E. C. Goodrich, of Utica, N. Y., who raised varieties by the thousands, said that not until a sort is four or five years old can its character be settled so as to entitle it to confidence. In raising new varieties of potatoes from seed, you will most probably be disappointed if you anticipate great success. It is much like raising new varieties of apples from seed. In either case, the probabilities of producing a variety equal to the best of those now cultivated are very small. Mr. Cole, a former editor of the FARMER, commenced some experiments with potato ball seeds in 1848. But as he died in 1851, and was quite unwell for some time previous to his death, he probably did not complete his experiments with them. He collected the balls from different sections and from different varieties of potatoes. The product the first year from a single seed was in some cases equal to about a quart. Of some two hundred plants, he found the product of nearly every one the first year was distinct in appearance. Cultivators generally select a few of the most promising of the first year's crop for subsequent trial, rejecting the great majority as worthless.

"WESTERN OATS."

In the FARMER of August 21, you speak of three heads of Norway oats taken from the field of Mr. Samuel Hosmer, of Acton, Mass., one of which contained ninety grains, while the largest number of grains in three heads of the common variety was but twenty-six. This prompts me to write and inform you of my oat raising the present year in old sterile New Hampshire. Enclosed is a head of ninety-two grains, if I count correctly, of black oats, taken from a piece of about two acres, on which corn was raised last year. Before planting the corn twenty ox-cart loads of yard manure were applied to the acre, and none since. On these two acres I sowed last spring one bushel of oats, kindly furnished to me by William R. Bunker, Esq., proprietor of the Pawtuckaway House, in Epping, N. H.; being part of one hundred bushels bought by him at Portsmouth, for use in his stable, and which he called "Western oats." My own oats had become run down, and I wished to change my seed. None of my neighbors had courage to try this unknown variety. Although I think I seeded too scantily in this case, I believe that generally oats are sown twice or three times too thickly—the common rule being two or three bushels per acre. I have not yet harvested the oats, but some of my neighbors set them as high as forty bushels to the bushel of sowing. If such should prove the case, I think they are fully equal to the far-famed Norway oats. As many as nine stalks have branched from one kernel in some cases.

Can you inform me, from an examination of the enclosed head, the true name of the variety? Its appearance in the field is somewhat like that of the Horse-mane, the grains of which are white, while of mine they are black. M. J. HARVEY.
Epping, N. H., Aug. 24, 1869.

REMARKS.—Our head is not level on oats. There is a black oat called the Pennsylvania Oat. Statements have been made that both black and white oats have been sold for "Norway" and for "New Brunswick," by different dealers.

RAISING CALVES.

An item on this subject, by one of the FARMER correspondents, called attention some time since to what seems a small matter, but yet one which is quite important, viz., having the milk warm when fed to the calves. At the first thought it might appear that there was but little difference between warm and cold milk. Such, however, is not the case when fed to young calves. And I am convinced that not a few of us are unsuccessful in raising good calves from lack of attention to this small matter. Next to good, warm, sweet milk, a calf will take fine, early cut hay the best. Many farmers who have raised stock for years suppose grass the best thing for them, after they are a few weeks old. A little observation will convince any one that this is a mistake. Good sweet fine-feed, or middlings—mind that they are *sweet*, though—make as good grain feed as can be got, perhaps; barley and rye meal, fine ground, are both excellent, and much better than corn meal. Always give it dry. All the porridge, pudding, and gruel preparations I have abandoned after trying them. First, warm sweet milk the calf easily learns to take; next sweet early cut hay; then the rye or barley meal or middlings, either of which the calves learn of themselves to take, without any handling whatever. On this feed, with care and a nice warm stable and a clean nest, they can be got into milk in from eighteen to twenty-two months. A dry, clean bed is a very important thing if you want a calf to do well; and a pretty large amount of bedding is required for half a dozen calves.

THE JERSEY STOCK.

With me, the Jerseys are generally, or always, very small and wild at birth; in these respects being quite different from the natives which I own. Though they sometimes come forward and make a rapid growth afterward, they are always more crazy and frisky while calves, and difficult for boys to lead with the rope. The bulls of this stock are almost always vicious, at least, so far as my observation goes, and should always be handled with caution. Among the half bloods and other grades of this stock are found many excellent milkers,—though according to my experience the quality does not equal the best Short-horn grades.

The unwillingness of the cows to be milked has, in many instances, been a serious drawback on their value; and in numerous instances within my knowledge have they been put off, because no amount of patience and coaxing would induce them to willingly give their milk. J. O. B.

Chestnut Hill, Mass., Aug. 6, 1868.

CABBAGE WORM—*Pieris Rapæ*.

Enclosed in box you will find five worms; a sample of the kind that destroys cabbages. They commence in the head. What kind are they? What do they originate from, and what shall I do to get rid of them? H. H. BALLOU.

Essex, Vt., Aug. 16, 1869.

Herewith I send you a box containing a piece of a cabbage leaf, with small nits or eggs attached to the under and upper side of it; also, a cabbage worm and butterfly for the inspection of Mr. Samuel H. Scudder. I have not been able to raise a respectable cabbage for some four or five years, on account of the ravages of this species of voracious rascals. Three weeks ago I had some nice looking plants; now there is nothing left of them but the fibres covered with filth. I tried to protect them by applying salt, also hard wood ashes; but in vain. Again I think I shall use a thin screen for a certain length of time.

Garland, Me., Aug. 23, 1869. H. C. PREBLE.

To the Editor of the NEW ENGLAND FARMER:—The specimens sent to you by Messrs. Ballou and Preble, were the same as those of which I had previously written to the FARMER—*Pieris rapæ*. It is an unfortunate English importation, and is spreading very rapidly. I have myself seen it this summer in the city of Boston, and have received it from northern New Jersey, where it is doing great injury.

I cannot find any eggs attached to the leaf sent by Mr. Preble; if there were any they have either been broken in transmission, or the enclosed caterpillar has escaped and eaten its shell—as is its custom. The egg will undoubtedly prove to be a minute, pale, conical nit, like the tip of a pin.

S. H. SCUDDER.

Natural History Rooms, Boston, Aug. 30, 1869.

REMARKS.—The previous article written by Mr. Scudder, was published in the Weekly FARMER of June 12, and in the Monthly at page 362. In that article he said this species produce two broods a year,—one in May and the other in July; the butterflies are of feeble flight, and can easily be taken in a scoop net, which is, perhaps, the easiest way of keeping them in check.

When we first opened Mr. Preble's box, we noticed a very small worm on the cabbage leaf, which had probably hatched on the way and died before Mr. Scudder examined it. This species is not mentioned in the "Synopsis of the described Lepidoptera of North America," published by the Smithsonian Institute in 1862, although Mr. Harris' *Oleracea* is.

CURING TOBACCO.

It occurs to me that perhaps a few words would not be amiss at this time, upon the methods adopted by our best growers in curing their tobacco after it is housed. Much depends upon the care and skill of the grower, at this important point of time in the production of fine colored leaf, and in guarding against pole sweat. It is probably true that a good whistle is very seldom made from a pig's tail; and equally true, that good, firm wrappers are not made out of originally thick, heavy leaf. Still much can be done to secure the best possible results, from the quality of leaf grown.

It is now the practice to give our tobacco all the air that is practicable, until the sweating period is over. If the weather is hot and sultry, attended as this weather frequently is, by a humid, foggy, atmosphere, it is well to shut the sheds as tightly as practicable, during the dampest portion of the time, and then give all the air you can when the air is the dryest. If there is a breeze stirring, give the tobacco the benefit of it. If the weather is rainy, shut your sheds, and keep the moisture out of them as much as possible, but open as soon as the weather clears up, and let it dry off as soon as possible.

After the sweating stage has passed, we think it well to keep the shed shut more, giving it less and less air. And when the leaf is nearly all cured down, it is well to let the shed be open in damp, rainy weather, and closing it in dry weather, so that the leaf may dry off slowly. In this way a more uniform color is obtained. Unless this course is pursued the leaf often has a variegated look or appearance, which is very forcibly expressed by the term "calico."

After the tobacco has dried down, it is best to keep the sheds shut for another reason,—to prevent the wind from blowing it about and whipping and breaking the leaves. When tobacco cures down quick we think it is apt to be lighter colored, and perhaps this end is attained in a measure by hanging the plants with lath, as the splitting the stalk hastens the drying process. OBSERVER.

North Hatfield, Mass., Aug. 30, 1869.

TREATMENT OF SICK PIGS.

A few years since I had a fine shote, four months old, taken with spasms, and purple or red spots came out on it, similar to the case described by Mr. Brewster in the FARMER of August 28. One neighbor said, "Rub the issues on his fore legs with a cob;" another said, "pull out his black teeth;" all which I did, to no good. An old lady advised me to give it half a pint of lard melted in a pint of new milk. I gave it according to direction, and in a few hours my pig was well. Two of my neighbors have had sick hogs, (150 and 250 pounds, respectively.) I assisted them in administering the same dose to them, and both were cured. I think in every instance it was a stoppage, which the lard and milk at once removed. Put the lard and milk in a tin dish, set on the stove and heat until the lard is melted. Administer warm.

L. L. PIERCE.

East Jaffrey, N. H., Aug. 30, 1869.

In reply to H. M. Brewster I would say, that a few years since I was called to see a sick hog; I found him precisely the same as Mr. B. describes his hog to have been. I started the blood by clipping his ear, threw cold water on to him, made a mud hole for him to wallow in, which he frequently used, and in a few days got well. I think if costiveness prevails, an injection of soap suds would be beneficial. D.

Groton, N. H., Aug. 29, 1869.

I would say in reply to H. M. Brewster, that a neighbor of mine had a valuable hog attacked with the disease he describes, the name and cause of which is unknown in this section. The remedy used was a small piece of garget root inserted in each ear, in a manner similar to that employed in gargeting cattle; the ears the day following were much swollen, and it proved effectual, the hog having fully recovered.

My experience goes to show that a cellar is an unhealthy place to keep hogs in. They should have a dry, warm bed, or place to lay in, with plenty of fresh air and sun. E. E. BERRY.

Farmington, N. H., Aug. 30, 1869.

I have had several hogs that have shown the symptoms described by Mr. Brewster. My way of treating them was showering them often and freely with cold water. All that I treated in this way speedily recovered. One which I neglected to shower, on account of the intensely cold weather, died. S. M. W.

Holderness, N. H., Sept. 1, 1869.

FARMING BY A GRADUATE OF HARVARD COLLEGE.

My old. Friend and Classmate:—I am now, to-day, just through with my harvesting, and stacking of small grain, thirteen large stacks. Though I do not work much myself, yet it requires my constant attention and care to see that everything is done up right, and in a farmer-like manner.

Our next business is to thresh out the grain, which is done with a ten-horse power threshing machine; and then haul it, or so much of it as we wish to sell, to the depot, which is less than a mile from my farm, and take the going price in cash for the lot.

I have already been ploughing for fall wheat. We commence sowing with a one or two-horse wheat drill, about September 1, and put in about eight acres per day. All crops in this section of the country are very good this year.

The improvements in machinery, and the use of the most approved kinds, have rendered farming a very pleasant, interesting and profitable business.

I have the Marsh harvester to cut my small grain, wheat, oats, barley, &c. One man drives; two men ride and bind up the grain as it is cut, and throw the bundles from the machine; and one man follows and shocks up the grain, putting about a dozen bundles in a shock. This machine is drawn by two stout horses with ease, and cuts from eight to ten acres per day.

I am under much obligation to you for "Old Town Folks," the new Triennial Catalogue of Old Harvard, and numerous other favors. C. L.

Troy, Kansas, Aug. 4, 1869.

REMARKS.—We have been permitted to copy the above from a private letter addressed to a gentleman in this city. When the graduates of such institutions as Harvard College find that agriculture offers inducements superior to those of the professions or of commerce, may we not safely allow the students at our agricultural colleges, and even the sons of farmers, to take their course.

DEATH OF STEPHEN RICHARDSON, OF WATERFORD, VT.

From time immemorial the world has given generous praise to its heroes and great men. This is well. But has it duly honored its *good* men, especially those whose lives have been passed in what may have been regarded as the narrow spheres of action? Believing that it has not, we take our pen to write a brief obituary of a good citizen, a valued neighbor and a true friend. Mr. Richardson was a successful farmer. In his farm management and operations he was systematic and particular. He was an admirer of good stock, raised it himself and took much pleasure in examining that of others. He kept good fences and was careful that his own animals should not encroach on the premises of his neighbors. He took great interest in our agricultural fairs, in which he was not only an exhibitor, but an active and prominent manager, and was for many years a reader of the NEW ENGLAND FARMER.

But it is chiefly as a citizen and neighbor that his loss will be felt by the community. As such he was intimately known to the writer. During the war he was one of our foremost men in the performance of every patriotic duty. In every thing calculated to promote temperance and morality, he was an efficient worker. He was especially well qualified to assist families in sickness and in the hour of mourning and sorrow, and there is hardly a household in the neighborhood which has not cause to remember with gratitude the ministries of his sympathizing heart and open hand. His sober honesty and independent manhood secured the confidence of all. But he has left us, and we may well exclaim with one of old, "All ye that are about him, bemoan him; and all that knew his name, say How is the strong staff broken and the beautiful rod." P.

Waterford, Vt., Aug., 1869.

CROSSING MERINOS WITH COARSE WOOL SHEEP.

Seeing Mr. Hart's communication in the FARMER of August 21, I am induced to say, for the benefit of such as wish to retain their fine wool sheep and raise lambs for mutton, and have doubts of the safety of the sheep at the time of lambing, that accepting Mr. Hart's advice last fall, I selected twenty from my flock of fine wools, selling the balance for pelters. My sheep were not large,—hardly medium size compared with others. Fearing the result of using the large buck I received from Mr. H., I used a lamb from the same stock, and must say I was happily disappointed in regard to the anticipated trouble of taking care of the sheep and lambs in the spring. From the twenty ewes I raised seventeen lambs—no twins—and did not lose a lamb. They seem to possess a hardier constitution. All they require is milk, in want of which from the mother, they must be fed. I fed the sheep well, but did not feed the lambs, except that they came to the trough to eat with the sheep. I never had so little trouble with lambs in the spring before. They went to market August 16, at an average age of less than three months, and were worth at least a dollar each more than lambs from same sheep last year, at six months' old. A townsman driving lambs at the same time remarked, that one of mine was worth two of his, the lot through. I would not recommend that lambs of this cross should come early, for the reason that the merinos do not usually have a large supply of milk at hay without extra feed, but at grass will do very well. I have Cotswold lambs dropped in the month of April whose wool will measure six and a half inches. A. D. ARMS.

Montpelier, Vt., Aug. 23, 1869.

A GOOD COLT.

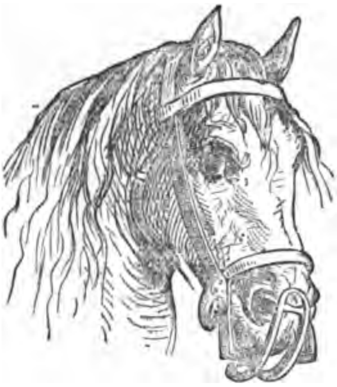
Perhaps the following facts will suggest to some of our agricultural friends the importance of breeding from good stock.

Mr. Wm. Hanson, of Williamstown, Vt., sold to Mr. V. M. Hubbard, of Rochester, Vt., a two-year-old colt, standing fifteen and a half hands high, and weighing the day before he was two years old, ten hundred and thirty-five pounds, for the sum of four hundred dollars. Said colt was sired by the well known Benedict Morrill. Its dam a black Bullrush Morgan mare, weighing in fair flesh eleven hundred and fifty-five pounds, and stands fifteen hands high. If any one has a better colt we should like to hear from him.

Williamstown, Vt., Aug. 30, 1869. W. H.

BAR MUZZLE TO PREVENT CRIB-BITING.

Dr. Dadd believed crib-biting to be a habit and not a disease. Mr. Youatt says, although some learned judges have asserted that crib-biting is simply a trick or bad habit, it must be regarded as unsoundness. In the new work on "The Horse," from which we copy the annexed illustration, recently published by Porter & Coates of Philadelphia, cribbing is ascribed to "a diseased condition of the stomach, for which there has never yet been a cure discovered, except on the principle of restraint."



Various contrivances have been used to prevent or "restrain" cribbing. In the weekly **Farmer** for Jan. 23,—Monthly, page 116,—we gave a cut to illustrate an arrangement of the stable for this purpose. A very common method, says the author of "The Horse," is to buckle a leather strap so tightly around the neck, just behind the jaw, that when the horse attempts to crib, he tightens the muscles of that part, and these being pressed against the strap, occasion such pain that the act is not completely carried out, and even if it is on the first occasion, the attempt is not repeated. The strap is buckled sufficiently light to do this without much impeding the act of swallowing, or the flow of the blood. Sometimes prongs are inserted in the straps to make it more effective. The manger is sometimes entirely dispensed with and the animal is fed on the floor or ground. "But by far the best preventive," says "Stonehenge," (J. H. Walsh) "in my opinion, is the bar muzzle, consisting in an iron frame-work, covering the lips and nose, and suspended from the head by a leather head collar, so that the lips can reach the corn or hay, but the teeth are too wide to pass through the bars and seize the manger. This mechanical contrivance is entirely harmless, and perfectly effectual, the sole objection to it being the fact that it proclaims the wearer to every one who looks into the stable as a cribber. This may be valid reason for rejecting its use for dealers' horses, but in a gentleman's stable, utility and humanity ought to have precedence of such a feeble argument. When the bar muzzle is adopted, it should always be kept on, excepting, of course, when the bridle replaces it for work or exercise, or while the head is being dressed."

COOKING FEED.

After alluding to the fact that most Western farmers who have tried cooking feed for stock praise the plan and then quit it, a correspondent of the St. Louis *Journal of Agriculture* says the reason probably is that farmers generally try to cook in a kettle, and great attention is necessary to prevent burning the bottom. A steaming apparatus is too expensive. He has tried steaming corn with a false bottom, and it does not answer at all. He believes it may be done economically by the use of hot water, which he says contains sufficient heat to cook anything placed in it, provided this heat can be confined and not allowed to escape. He continues:—

> Allow me to direct the experiments of your readers this fall to one point: At the last Paris (France) Exposition, the Poor Man's Cooking Stove, from Norway, arrested general attention. A vessel of any kind was enveloped by a considerable quantity of non-conducting material, such as felt, wool, &c.; into this vessel was poured scalding water, and the piece of meat to be cooked placed in the water. Tight woolen covers were then placed on the vessel confining the heat. After the lapse of a few hours the meat is taken out thoroughly cooked.
>
> Let us apply this principle to our farm economy. Have a large box, properly prepared, steam tight. Put it within another larger box, with cut straw and sawdust between. There should be a non-conducting substance, like saw-dust, not less than twelve inches thick, packed around the scalding box, including the bottom and top. We will scald our hog feed in this, confining the heat as directed. The hot water may be economically had, on the plan first suggested, by placing a large boiler on an extension cooking stove. Thus ten or fifteen gallons may be heated three times a day, or a total of forty gallons. We are trying this plan and like it.

Thirty thousand acres of public lands were disposed of to actual settlers during January, in Nebraska, Minnesota, Missouri and Wisconsin.

BREEDING MARES.

No mistake has been more common among farmers, and none attended with more pernicious consequences, than that of bringing colts from animals unfitted to bear them. With all the keenness of observation, and the experience which many horse breeders possess,—and they are usually among our most shrewd citizens—it is surprising that they have not yet discovered the great error of breeding from imperfect dams.

Every person may see, if he will, that points of physical beauty or defect are constantly transmitted to offspring, both from sire and dam. It is a law of nature that like begets like. If the slightest attention were paid to this rule, it would seem that no one would employ a mare to perpetuate the race which was known to be defective in any of the points which go to make up a good animal.

The same rule holds good, too, with regard to disposition, temper, or character. These are all important traits; traits so valuable that comfort, and even life itself, may depend upon them. And yet, because a mare has some one or two rare qualities, she is kept for a breeder, though she may possess several others, any one of which ought to condemn her for that use.

If two or three general rules were observed by all breeders, great changes might be wrought in a few years. The first of these is, *Never to breed from an old animal*, whose body has been injured and its vitality weakened by injudicious treatment or by too severe labor. The results which follow these are obvious to every observer, both in man and beast. They are all impressed upon the living organism, and can no more be separated from it than breath can from the body and life still be preserved. They are *there*, whatever they may be, and will be imparted to the offspring, just as sure as "like begets like."

It is possible that cases may exist where it is safe to breed from an *old* mare. Two of the finest horses that reins were ever drawn over were from a mare nearly *thirty* years of age, but she was perfect in limb and spirits; had always been owned by the same person, and fed with as much regularity as the owner's meals were served; she was never raced at a "military muster," or overloaded in any way, and at *thirty-three* years of age, she and her mate, of about the same age, were not only sound in wind and limb, but were a pair to be proud of when one held the reins over them. A pair of her colts, born after she was *twenty-five*, sold, under our eye, for twice as many hundred dollars as other fine horses about them brought! A moderate old age should not, therefore, absolutely exclude the mare from breeding, if she is right in other particulars.

The common practice for many years past, and one which has become woven, as it were, into the habits of the people, so that it seems as natural as the breath of life, is, to *keep the old mare for breeding, when she is unfitted for service on the road or on the farm!* This is where the evil commences. She is a favorite animal, was handsome, spirited, and with a power of endurance almost beyond belief. But now she is seventeen years of age, has a spavin, a slight touch of the heaves, and one or two other trifling matters which are a little inconvenient for a working animal, but she will make a good breeder, and about pay her keeping besides! This is the conclusion arrived at, and thousands of such cases exist among us to-day.

So the old mare, crippled by too early labor and disabled by disease, is to become the progenitor of a race which is to occupy a certain locality, perhaps, for a hundred years! It is scarcely possible that her young will not be injured before they see the light; and the strong probability is that each one of them will bear the marks of her imperfections. Some with ringbone, perhaps, or asthma, or spavin, or some lurking disease that had not developed itself in the over-worked and disordered mother. We have seen a yearling colt with a ringbone upon every foot. Well-formed otherwise, apparently healthy, eating and drinking well, but suffering and utterly worthless.

The subject has several other points of interest, some of which we will speak of in a future article.

Western Subsoil.—A correspondent of the *Journal of Agriculture* says, the subsoil of most of our Missouri lands, and also in Southern Illinois where I have had occasion to observe it, is of a very hard, not tenacious, but rather brittle consistency; a stiff clay, with a large admixture of sand and lime. It is in fact the same soil as the crust which we plough, except that it is devoid of humus, or decayed vegetable matter. It is universally asserted in Southern Illinois that their soil will produce good crops of wheat, even if taken from any depth down to the lime rock. This will, in a certain degree, also apply to our Missouri subsoil, but only on condition that this subsoil be exposed to at least one winter's thorough freezing after it has been thrown up.

CURCULIOS KEPT OFF BY HOGS.

In confirmation of the theory that the curculio will not meddle with the fruit on trees standing in a hog-pasture, a correspondent of the *Rural New Yorker* relates the result of an accidental experiment made by him on his farm in Indiana, some years ago. Wishing for a lot to feed his hogs in, he made a fence which enclosed about one-half of a parcel of some twenty plum trees, which blossomed full every year but matured no fruit, as it all fell off before ripe. That season the trees outside of the hog-yard dropped their fruit as usual, while those inside, though the hogs almost dug them up by the roots, not only grew well, but were so full of plums that the branches had to be propped up. The next season the fence was changed so as to take in the trees left out the year before, and the result was plenty of ripe fruit from all of them for several years. Others, he said, tried the experiment with the same result.

For the New England Farmer.

WHEAT RAISING.

Having seen several communications this season, on the all-important business of raising wheat, I thought I would give you a little of my experience, though but limited.

In the spring of 1860, I had a field of six acres that had been planted to corn the previous year, which I sowed to spring wheat. The spring was so early that I got my wheat all sowed and harrowed in, bushed and rolled the 18th day of April. The result of the crop was published in the FARMER of Sept. 12, if my memory serves me, but of which I will only say here that I got 222½ bushels from the six acres. Encouraged by that, I have sowed more or less wheat every year since, and during that time there has been but one year that I have not raised and sold over $100 worth of wheat, besides the bread for my family, and in three years in that time, have sold from $200 to $300 worth a year.

Last year I harvested seventy-five bushels from three acres of winter wheat, which sold for seed readily at $3.50 per bushel. I also had sixty bushels of spring wheat from two and three-fourths acres, a part of which got sprouted. Had it not been for excessive wet and hot weather while harvesting, it would have brought me $3 per bushel.

This year I had four acres of winter wheat, which I threshed one week ago, and measured up a little rising of eighty bushel, which I am selling for seed at $2.50 per bushel. This year I have only one and a half acres of spring wheat, which is not yet harvested, but will probably yield twenty bushels in all, being rather light.

Now, Mr. Editor, I fully endorse Mr. H. Poor's theory, that the New England States can raise their own flour, and even a surplus, if they will but try as hard as some do to humbug the people with Norway oats and Early Rose potatoes, &c. But as my article is getting too lengthy, I will stop for this time, but should like at some leisure hour to give your readers my method of raising wheat, and also my luck with Norway oats, Early Rose potatoes, &c. R. H. SIMONDS.

Hartford, Vt., Aug. 23, 1869.

VARIETIES OF WHEAT.—A correspondent of the *Canada Farmer*, who by way of experiment, sowed the past season—the White China, Soules, Treadwell, Kentucky White Midge-proof, Mediterranean Midge-proof, club-shaped ear (name unknown), and common Red Midge-proof, makes the following report:

> The Treadwell does not seem any earlier than either the White China or Soules; the Kentucky White was almost all winter killed; having sown it now three years I would not advise any one to do so hereafter. The Soules, of course, is as usual excellent; the club-shaped ear is also good; the White China also; but the Treadwell is best of all. The other sorts, although very rank and tall, have badly filled heads. No midge has made any perceptible inroads on any of the seven varieties.

TO INTEREST BOYS IN FARMING.

Mr. J. Harris of Rochester, N. Y., one of the editors of the *American Agriculturist* and who was tendered a professorship in the Cornell University, illustrates some of the means by which boys may be interested in the affairs of the farm, by the following personal reminiscences and suggestions:—

When I was a boy my father made me keep the accounts of his farm, and I soon began to take an interest in it. He had ten children, and worked hard to give us a good education. When crops were poor, or prices low, it was with a heavy heart he sat down at night to tell me what to write in the book, and though young, I soon learned to sympathize with him. Like all good men, he lived for his children. He worked hard for us, denied himself many luxuries that we might have a good time; would wear an old hat that we might have new shoes, and often walked that we might ride. Never was a happier set of frolicking young ones on a farm. And there is not one of us to this day that does not love farming. But those who talk of the "independent life" of a farmer—of his freedom from care and anxiety—merely show their ignorance.

There was plenty of anxiety on our farm. There was anxiety about the weather, about the crops, about the stock, and above all, about the health and life and limbs of the children. We ought all to have been killed half a dozen times over. One was kicked by a horse and ran a narrower chance of life than he has ever done since, and yet he has been through the war, has been up and down the Mississippi on a steamboat, and traveled the whole length of the Erie Railroad. "Aunt Hattie," as we now call her, had her head cut open with a donkey cart, and a sad house we had for many days as she lay between life and death. Another sister when three years old, caught hold of the spokes of the fore wheel of a heavily loaded wagon, and was thrown forward, and the wheel grazed her whole body. My father was driving, heard the scream, and looked round in time to see the danger, but not in time to stop the team. Fortunately the nurse held on to the child and jerked her out of the rut before the hind wheel reached her. Last fall, the eight children, who are still living, all met together, and it was found that every one of us had some scar that remained to remind us of the accidents of early life.

But what I wanted to say was that the habit of keeping the books of my father was not only a benefit to me, but a great comfort to him. He told me his fears, and I know now that it must have been a great relief to him. It certainly was a great advantage to me. If I know anything about farming, I learned most of it from my father. And I am fully persuaded that if a farmer would provide a nice, substantially bound book, and induce his son to write down every day, at his dictation, all that was done on the farm, it would go a great ways towards making a good farmer of him. It would be useful. I can imagine some such record as this:—

September 1st.—"Very dry weather. Cultivating for wheat." And then the boy would be very likely to ask when he was going to sow, and what kind and why.

Sept. 2—"Sow had ten little pigs last night, but killed two of them." "It is too bad," says the boy, "to lose them now, pigs are so scarce and high, and they say a rail nine inches high put round the pen, six inches or so from the boards, will prevent a sow from lying on the pigs." "I thought of doing it," says the farmer, "but I could not find the hammer, and we have no spikes." Mental reflection by the boy: "I left the hammer in the wagon." By the father: "Those two pigs at six weeks old would have sold for ten dollars."

Sept. 3.—"Thrashing. The five acres of Diehl wheat on the summer-fallow gave 150 bushels; the ten acres of Mediterranean after oats, gave only 120 bushels." "If we had sown it all Diehl," says the boy, "we should have had 450 bushels instead of 270." If the father is a sensible man he would correct this remark, and point out the fact that it was not the variety, but the condition and character of the land that made the difference.

Sept. 4.—"One of the horses sick." He had been on the thrashing machine all day, and the driver, to save his own horses, had made the farmer's do pretty much all the work. This horse was on the outside, and his end of the evener was no longer than that of the horse having the inside track, and he had to draw just as hard as the other and walk much faster.

Sept. 5.—"Drew the wheat to the city. Left at home ten bushels of Diehl for seed, and twenty bushels of Mediterranean. The Diehl overrun four bushels, and the Mediterranean fell short three bushels. Got $2 a bushel for the Diehl, and $1.75 for the Mediterranean." The five acres of Diehl came to $280, and the ten acres of Mediterranean, $175.

Now let a farmer tell his son such facts, and let him write them down as they occur, and the chances are that five years will not pass before the farm will be at least partially drained, weeds will have disappeared, thirty bushels of wheat and two tons of hay per acre will be the rule rather than the exception, and there will be little danger of that young man seeking a clerkship in the city.

PREPARING ANNOTTO.

Mr. Willard gives in the *Rural New Yorker* the following methods employed by old and experienced factorymen for preparing annotto for coloring cheese:—

First Recipe.—Dissolve six pounds concentrated potash and one pound saltpetre in five gallons of warm water, then add thirty gallons cold water, put in as much choice annotto as the liquid will dissolve, heat gently to a boil, put into a cask and store in a cool place.

Second Recipe.—Dissolve four pounds potash in one-half barrel of water, put in as much pure annotto as the liquid will cut. The mixture need not be boiled.

Third Recipe.—Take four pounds of best annotto, two pounds concentrated potash, five ounces saltpetre, one and a half pounds sal-soda, and five gallons boiling water. Put the ingredients into a tub, pour on the boiling water. The annotto should be enclosed in a cloth, and as it dissolves squeeze it through the cloth in the liquid. About two ounces of this mixture is sufficient for one hundred pounds of curd in summer.

In coloring cheese, the best way is to fix upon the desired shade by trial, marking the quantity of liquid used, and after that is known the same proportion will give color that is uniform.

HOW TO BUILD A CORN CRIB.

How to have a rat-proof corn-crib, is a great question among farmers. A correspondent of the New York Farmers' Club gives the following experience:—

"I have a corn-crib that has stood for twenty years, and has never had a rat, and but one mouse in it, to my knowledge. Posts ten or eleven feet long and eight inches square; mortise two feet from one end; for end-sills, two-inch mortise with tusk. Taper post from sill to the end, by hewing off inside until the end is reduced to four inches diameter; make smooth with draw-knife, and nail on tin smooth half way to the end, below the sill. Let sills be eight inches square; also, end tie them and the rafter plates strong with moderate inter-ties. Brace well, and lath up and down with three-quarter inch lath; dovetail or countersink joists crosswise; lay the floor, and board up the ends with ungrooved boards; let each bent be twelve feet long, six feet wide at the sill, and seven and a half feet at plate; and if full to peak, it will hold 250 bushels. I never had an ear to hurt on account of the great width. If preferred, lay the floor with lath or narrow boards, with room for ventilation. Each post should stand on stone, about three inches from the ground, and each stone have a foundation two feet square and below the frost.

Good Milk.—The following rules were unanimously adopted by the Illinois and Wisconsin Dairymen's Association, "to insure the delivery of pure, sweet milk:"

1. That no milk is good, which is made from filthy, stinking water, of sloughs and frog ponds.
2. That no milk is good that comes from cows dogged, or over-driven in hot weather, from the pastures to the stable.
3. That no milk is good, that comes from cows pounded or kicked or cruelly treated, by brutal men.
4. No milk is good that comes from diseased cows—cows that have sores filled with puss, or that have udders broken and running with corruption.

Potato Growing under Straw.—Mr. Geo. Clark, of Ecorse, Mich., recently sent us an account of an experiment by him in potato culture. The potatoes were cut and dropped in trenches which were four feet apart and six inches deep. These trenches were then filled with rye straw and cornstalks, so that, when stepped on, the straw and stalks were about six inches deep. The potatoes were then cultivated and hoed as is usually done with this crop, and the result was a good yield of medium sized and good eating potatoes, very few being rotten or hollow. Potatoes planted at same time and on similar land, but without mulching, gave a poor yield of small potatoes. Mr. Clark estimates his gain, from mulching this half acre, at $100.—*Western Rural.*

Are Bees Injurious to Fruit?—In answer to this question Dr. A. S. Packard, editor of the *American Naturalist*, in vol. 2, page 52, observes:—

> "I would reply that all the evidence given by botanists and zoologists who have specially studied the subject shows that bees improve the quality and tend to increase the quantity of fruit. They aid in the fertilization of flowers, thus preventing the occurrence of sterile flowers, and by more thoroughly fertilizing flowers already perfect, render the production of sound and well-developed fruit more sure. Many botanists think if it were not for bees and other insects, *many plants would not fruit at all.*

A Sheep Medicine.—Mr. Ephraim Noyes of Jefferson, while on a call at our office last week, alluded to the great number of sheep that died the last spring, and said he did not in all cases attribute it to worm in the head. He lost nine from his flock, all from a disease known in his locality as "swelled neck"—a sort of enlargement of the thyroid glands, which are situated on each side of the upper portion of the windpipe. He saved three by giving them a single dose of a medicine composed of equal parts of spirits of turpentine and saltpetre, using four tablespoonsful as a dose. The swelling began to subside very soon after the medicine was administered. The youngest sheep of the flock were generally attacked first.—*Maine Farmer.*

Steel Watch Chains.—The small steel chain which winds round the fusee of a watch is about eight inches in length, and contains upward of five hundred links, riveted together. It is not thicker than a horse hair, and the separate links can but just be perceived with the naked eye. Modern invention has as yet discovered no substitute for this chain equal to it in slenderness, strength, and flexibility. Most of these watch chains are manufactured at Christchurch, in Hants. The links are punched out by girls from plates of steel, and very young girls pick up the link, and rivet one to the other. Watch-chain manufacture has been the staple of Christchurch for nearly a century—in fact, ever since pocket watches began to be generally carried.—*Exchange.*

USE OF MUCK.

MIXING IT WITH OTHER MATERIALS—SUCCESS IN ITS USE.

I read all that is published in the Farmer about muck with much interest. The reason is, I have a two-acre peat meadow, from two to twelve feet deep, with a tillage upland, somewhat sandy or approaching a sand. I have made a compost by mixing muck with ashes, lime, and sometimes fish guano. I use but one of these materials in the same heap. Would it be advisable to put ashes or lime into the muck with the fish guano? When either of these materials are added to the muck, how long should the heap remain before it is used? Can the agricultural editor of the Farmer, or any of its correspondents, speak from experience on this point? About a year ago, you published an article from a correspondent, saying that he thought of getting the water out of his swamp by pumping, and asking your advice. I meant to have kept that paper, but it got torn up and I have forgotten the man's name and place of residence. (See Monthly Farmer, 1868, p. 420.) I want to know whether he tried it, and if so, how he succeeded. I had come to the determination myself, to try pumping. My idea was to use horse power in doing it. I have not yet tried it.

Montague, Mass., 1869. Elijah Gunn.

Remarks.—We have used large quantities of muck through a period of more than twenty years and have found it excellent on all kinds of land. It is a manure in itself, varying in quality considerably, but the *best* will be cheaper than most of the special fertilizers that are in use. It will be cheaper, because it will cost so much less, and may be used in thousands of instances without stint. It is a *permanent* manure. Applied liberally to a sandy loam, its effects are plainly visible for twenty years. On a heavy, granite soil we have found the roots of plants penetrating it in every direction, and the crops above it growing and perfecting themselves with wonderful vigor. There is little danger of your fixing too high a value upon good muck.

Unless the manure is to be used immediately, it is best to keep back lime or ashes and spread them upon the soil by themselves. It would save some time, perhaps, to put all the materials together and apply them in that form. But if the heap is to remain sometime, and the lime or ashes are mingled with the animal and vegetable matter, there would be danger that the fermentative process might be carried too far, and injure the whole.

When the heap is made up of muck and fish guano, it is important that it should remain two or three weeks, and be overhauled enough to get the whole mass completely mingled. If the heap were kept covered with fine muck, we cannot see that any harm would come to it if it were to lay for months, but be all the better for it. None of our manures are used in a state of sufficient fineness; at least none that are employed as a top-dressing, or placed near the surface. Even when ploughed under in a green state, they are not as evenly distributed as they ought to be through the soil. The crops, therefore, are uneven and unsightly on the field, and probably are lighter, as some patches are overgrown, while others are starved and lean.

Success in pumping the water out of a swamp will depend upon what the supplies are, and the area which you wish to relieve of water. It is usually a wearying and tedious work for humun muscles to accomplish. When the work is once begun it must be continued, night and day, sick or well, because the water will press in all the more rapidly for what has been taken out. A horse-power, continued night and day, might be effective. The address of the writer of the article on pumping water from a muck hole, to which you allude, is Mark Farrar, Shrewsbury, Mass.

A friend of ours commenced on a farm some twenty-five years ago, and cut *six tons*, only, of English hay upon it, and about three times as much meadow hay. He now cuts about *one hundred tons* of English hay, and four times as much grain as he did at first. Within a hundred rods of his barn was a dirty swamp, covered with alders, and too cold, wet and dark, for frogs and other reptiles to inhabit. Not an acre of this swamp had ever been used within the memory of man, and yet it was only by dint of perseverance that he could purchase a single acre, and for that he paid *three hundred dollars!* But that acre has been his great co-worker and helper, and has assisted him more than any one thing besides, in wintering fifty head of cattle annually. "Go, thou, and do likewise."

Wild Oats in Oregon.—While the native oat of the Pacific coast furnishes splendid pasturage and makes excellent hay, we learn from an article in the *Willamette Farmer* by T. L. Davidson, that it proves to be a pest in grain fields. The grains upon the stalk of this plant do not ripen uniformly,—a portion ripening and falling off, while others are green and immature. Each grain has a long, sharp beard, arranged so that when it is wet by the rain or water it will move when placed upon your hand. It is said that there are fields of it in California that just after a rain seem like a mass of living worms working in the soil.

These grains work deep into the soil, and keep coming up from year to year, and the farmer wonders, after summer-fallowing his field, why it is that he sometimes raises more wild oats than the grain sown. The worst fault of this plant is that it is so very hard to kill or get rid of in our grain fields. It is not fit for culture for the grain, hence it is a nuisance. Mixed with wheat or oats it lessens their value. Some oat crops in Oregon this year are nearly one half wild oats. It is believed that by summer fallowing, in connection with sheep, grain-fields may be kept clean.

For the New England Farmer.

SPRING WHEAT.

Culture of Sod Ground---Manures---Absorbents.

With many thanks to Mr. Henry Poor for his timely answer to my questions concerning winter wheat, of which I am now putting in a field (1¼ acres,) for the first time, on sod ground, and well fertilized, I would like to ask him if sod ground is also good for spring wheat? My soil is a light loam, but good for corn. I have found by repeated experiments that I can raise better corn on my sod ground, to plow it late in spring, just as *near planting time as possible*, than to plough it the previous season, at any time after haying,—no matter what pains I may take to pulverize the soil before planting. Whether the same is true of spring wheat, is the question. The fermentation of the green sod greatly helps the growth of the corn.

I have also set strawberries in like manner, on inverted sod, with great success. This, however, I do not recommend, as the plants do not, like corn, shade the ground; and it is too much work to keep out the grass springing up from the turned roots. But in case of spring wheat or oats, with a very thorough pulverization of soil, I do not see why it should not work as well as with winter wheat or corn. The roots of corn and strawberries penetrate the decaying sod, clinging tightly to the mass, kept so warm by the fermenting process. I have often seen the experiment tried of plowing different parts of a field of sod, all alike, and fertilized alike, one part turned soon after haying and ploughed, sometimes twice, in spring, and harrowed; the other part turned from the fifth to the fifteenth of May, and both planted at the same time; and in all these cases the best results were realized from the spring turned. I think it best to cultivate or harrow the manure in, and not turn it under the sod. The tendency is for manures to work downward, so that when buried too deep there is more loss by leaching. Still I know an old farmer and a good one, (over ninety, I think,) who spreads his manure on the sod, turns it under just before planting, and without harrowing or hill fertilizing, goes over the field and treads his five kernels of maize into the ground four feet apart in every third furrow. He has good crops by the means, but I think he would get more value from the same manure, by using it nearer the surface. I believe, as far as possible, manure should be applied in a green state, and *just* turned under. Let the fermentation go on in the soil, as it surely will, and the gases will be fixed and saved for the growing plant. No doubt a cord or a ton of rotted manure is more valuable than a like quantity of green, as the loss of water while fermenting, lessens both weight and bulk more than the loss of fertilizing matter. Still, if there is any value in the organic properties in the manure, their escape, while fermenting, is a *loss* of value, even if that loss be not so great as the diminution in quantity.

Always keep an abundance of absorbents, *housed when dry*, to put under your cattle to take up the liquid and keep it from wasting; and also to leave the manure in a better condition to work over and refine before applying. Besides, the action of these powerful solvents on the crude inorganic matter in the absorbents, they are a meaus of supplying considerable quantities of fertilizing material, otherwise not assimilable by plants. Never use sand for bedding! There is an ample quantity of silica in all soils, while the other manurial properties in muck and loam are of great value; and while loam is soluble, sand is composed of an infinite number of little hard particles, not fitted to absorb. Where sand is needed to warm land, spread it on the surface raw.

In one of his articles, Mr. A. W. Cheever speaks of using sandy loam for an absorbent. I would like to see an article on the subject of absorbents, from this careful experimenter. But—*always keep them dry!* JOHN.

Franklin, Mass., Sept. 4, 1869.

For the New England Farmer.

EQUISETUM ARVENSE.

The articles in the FARMER of the 4th inst., concerning the above plant, commonly known as Field Horse-tail, but in some sections by other synonyms, interested me much. Some thirty years since my father owned a very hearty and healthy brown mare. Being short of hay, he purchased a lot of grass, in the meadows running back from the Connecticut river, on some portion of which there was considerable of this weed. As it was something new to him, he did not particularly notice it or think of its being injurious in any way, and he put it in the barn as usual, for feeding. As the hay was fed to this mare, he noticed after awhile that something was the matter with her. She appeared weak, staggered when taken from the stable, and I recollect that while attempting to harness her she came near falling down several times. We considered it quite a serious matter, but could not at first account for it. Her feed was changed, and she soon recovered; but upon putting her on the same feed, a recurrence of the same symptoms and effects took place. This horse was kept up to hay principally through the season, and the worst effects were noticed in warm weather. On inquiry among neighbors, we became convinced that it was owing to eating this weed. A near neighbor had hay of the same quality, which he fed to his horse without any ill effects, but it was found that his horse rejected the weed entirely, picking out the hay and leaving the weed among the orts. I have known but few instances where I supposed horses were injured by this weed, or where they rejected it entirely, although I have known such hay fed, with suspicion, ever since the above date.

The Horse-tails are what botanists term *cryptogamous*, or flowerless plants; having no true flowers, with stamens and pistils, but producing and multiplying their kind instead, by means of spores. This species presents two forms, which ordinary observers would decide as being two distinct varieties or species. One of these forms are simple stems, hollow, grooved, of a light brown color, and have at each joint or node, a sort of sheath of a darker color, and rises from the ground early in May, usually. On the top of these stems is a head, shaped somewhat like a pine cone, made up of scales similarly, which, like the pine cones, bears its spores on their inner surface. These spores are very curious, as observed under a microscope, and present a very interesting study, as they are quite sensitive to outside influences. These stems shed their spores when perfected, and afterwards the barren plants appear, growing six to twelve inches high. It is these which we gather in our hay, principally, and are too well known to need description.

Gray, in his Manual, says it is natural to damp grounds; but in this vicinity it is found the most flourishing near the high banks of the river, where the soil is the dryest in the meadow.

Another remarkable fact connected with feeding this weed by my father, was, that at the usual time of sowing soft turnips, the fall following, he applied the horse-manure made from feeding this hay, to a square patch in the home-lot, on the whole of which the horse-tail came in thick, and although the ground has been cultivated with a view to its extermination, it remains about as thick as at first. The soil is a light sandy loam, with a yellow porous subsoil, and is dry upland.

Although this weed has been fed many years since, I do not recollect of its affecting any other animal, nor have I known of any other instance where it has been brought in by the application of the manure made from animals fed on the horse tail. Perhaps it may be owing to its not being applied till it had passed a fermentation. W. H. White.

So. Windsor, Conn., Sept. 6, 1869.

For the New England Farmer.

DEEPER OR BETTER PLOUGHING.

As the time has come for the diplay of the skill of our ploughmen at our annual Fairs, and as the subject of ploughing is always in order in agricultural papers, permit me, by way of introduction to a few remarks, to call the attention of your readers to an article published in the weekly Farmer of July 31, by P. C. Thayer, in regard to deep ploughing, and ask them to weigh well the questions he has put in relation to his turning six or eight inches of yellow, or "free soil," as he calls it, to the top.

Now, Mr. Editor and brother farmers, I am going to give you a few of my ideas about it, and ask a few questions at the same time. In the first place, he says he heard Horace Greeley say an acre of soil one foot deep would produce as much as two acres six inches deep, and an acre two feet deep would produce as much as four acres six inches deep. When we go to Fairs and hear men give us a lecture upon farming, we ought to take heed how we hear and how we understand. I am aware that many people, when they hear a man of great abilities make a speech, go away with the idea that he knows all about it.

I don't know Mr. Greeley, but I have read some of his writings. I think if he had seen the land Mr. Thayer ploughed up, he would have doubted the wisdom of his advice, or of its being followed as Mr. Thayer did. If he would advise ploughing so deep all at once, then I must say that either he or I have a great deal yet to learn about farming.

Mr. T. asks if he has committed a blunder in turning up six or eight inches of yellow dirt. I think it is not such a blunder in his case as it would have been with most farmers, and on very poor land. Having had four coats of manure before and one since, it must be in a much better condition to recover from the effects of the ploughing, than if it had had none at all. He says his neighbors laugh at him, but none of them recommend any remedy, though they agree that it will prove a great injury. I don't see much to laugh at. We are all liable to errors, one way or another, and the best way is to correct them as soon as possible. I should anticipate that stirring the subsoil thus deeply at once would be likely to cause the soil to be porous and leachy. I would recommend putting on liquid along with the other manures; likewise to try a dressing of salt and soot mixed, if it can he had.

Most farmers have some very poor land, and if they go to ploughing as deep as Mr. T. has done, because Mr. Greeley said so, it would take them half as many years as they ploughed inches deep to fetch their land up to a profitable state for cultivation. Farmers in this country plough up pieces neither round, square nor oval, and all the way from half an acre upwards, commencing at the outside of the piece, going round and round, and forming a dish in the middle. How would such a piece look if we commenced sixteen inches deep?

By ploughing fourteen to eighteen inches deep, manuring heavy, and pulverizing well, we might get a heavy growth of grain and grass, mammoth pumpkins, squashes, turnips, potatoes, &c., but our grain and grass would be likely to be laid flat, and our vegetables deficient in quality. But are these the crops farmers find profitable? Rusted straw, shrivelled grain, half rotted grass, and coarse vegetables are far from desirable.

I have an upland farm of 700 acres, and you will believe I have a variety of soils—some deep and some shallow—but I would not have a foot of it ploughed deeper than from seven to nine inches. On portions of my farm it would be amusing, I think, to see any of these great speech-makers take a plough and plough over three inches deep. Me thinks I see the plough jumping one way and their legs going another, as the implement worked its way among the stones. But for all that, I get good crops of grain, and grass of first quality.

When people advocate such deep ploughing I think they are beginning at the wrong end. It would be more sensible to recommend a better mode of ploughing; to plough more thoroughly before we plough more deeply. What is more unsightly than a nice, smooth meadow, filled full of ridges by bad ploughing? Such fields are not only unsightly, but they are an impediment in the way of the mowing machine. There is no excuse for such work. I have seen but very few pieces of mowing since I come to this country that could not be greatly improved by commencing at the proper place to plough, and finishing off accordingly.

I will bring this scribble to a close, by repeating what some of your correspondents say: "More practice and less theory," "More brains," more light, and better judgment in farming. E. HEBB.

Jeffersonville, Vt., Sept. 1, 1869.

KILLING APPLE WORMS BY MACHINERY.—"Place early in June *rags*, not hay-bands, in the forks of the tree, or trunk, below the lower limb, and in these the larva will secrete themselves to enter the chrysalis state. Once in two weeks remove these rags, and destroy the insects. Mr. Brown does it very quickly and effectively by passing the rags through a clothes-wringer. In this manner he believes the nuisance may be got rid of; and yet the effort will be useless unless every owner of an orchard does the same thing. There must be *united* effort. Let every man feel it his duty to urge his neighbor to act at once and persistently, remembering that 'eternal vigilance is the price of'—*good fruit*."—*American Entomologist for July.*

AGRICULTURAL ITEMS.

—Equal parts of laudanum, alcohol and oil of wormwood make an excellent liniment for bruises, &c., on man or beast.

—Mr. Griswold, of Vermont, paid $3000 for the Short-horn bull 14th Duke of Thorndale, when a calf. He recently sold him to Mr. G. M. Bedford, of Kentucky, for nearly $6000.

—The *Gardener's Monthly* complains that books on vegetable physiology are very much behind the age, and regrets that there are not more students in this interesting branch of science.

—Broom corn brush is selling in the central part of Illinois at 20 and 25 cents the pound. The expression, as "cheap as a broom" is likely to lose something of its original force.

—Fifty-five kind-hearted farmers turned out last week near Lansing, Iowa, and cut, bound and shocked sixteen acres of wheat for the widow Guilee, whose husband had recently been killed by the kick of a vicious horse.

—A monument lately erected in Winthrop, Me., to the late Dr. Ezekiel Holmes, was dedicated September 9. The address was by Dr. N. T. True of Bethel, who remarked, "For the first time in the history of our beloved State have public honors been rendered at the grave of any of her citizens whose life was devoted to the science of agriculture."

—A correspondent of the *Maryland Farmer* says that if farmers will look around they will find as large blackberries growing on their lands, as those sold by nurserymen at $3.00 to $5.00 per dozen. He has one plant in his garden which cost $3.00, and the berries are no larger than those on bushes dug from his waste lands. It is his practice to tie a string or mark around plants bearing the largest fruit in July or August.

—E. P. Savage, of Clinton, Iowa, raised last year from a bushel of Early Goodrich potatoes four and a half bushels of miserable, knotty, small potatoes, and acknowledges that he said hard things of the variety, but thought he would give them another trial. This year the quality is equal to any of the twelve varieties on his farm, and he estimates the yield at 400 bushels per acre.

—The *Canada Farmer* says that the natural course of vegetation does not exhaust, but rather enriches the soil, by eliminating plant food, and restoring it to the land in decayed vegetable matter. It is the artificial method of growing crops and *removing* them entirely from the land, without any return, that exhausts or impoverishes.

—A correspondent of the Cincinnati *Times* says that the following recipe will preserve garden seeds and all kinds of grain and seeds from the ravages of cut worms, birds, &c. One pound sulphate of iron, one pound aloes. Dissolve in water heated to 90 or 95° and pour over one bushel of grain, and in a similar proportion for a greater or lesser quantity.

—The *Horticulturist* says that if a fruit grower has a muck bed within reach he is fortunate. For all light or loamy lands, the application of a hundred or more loads per acre of well-prepared muck, is of the most beneficial character. It should be exposed to the air six months or even a year before it is applied to the soil, and composted meanwhile with lime, unleached ashes, or fish guano.

—Mr. L. B. Arnold gives the *Country Gentleman* a marked instance of the fact that odors inhaled by dairy cows will affect the milk. In June he lost a calf, the carcase of which was placed where northwest winds carried the stench over his pastures. It was soon found that the milk was tainted, and was tainted or pure as the wind changed. The cause being traced and removed the trouble ceased. In another case dead horses in the cow pastures caused serious loss to all the patrons of a cheese factory.

—Leander Smith, a veterinary surgeon of St. Louis, Mo., expresses the opinion, in the *Journal of Agriculture* of that city, that glanders cannot possibly be produced in man. He says that when he was a student he knew a German chemist to repeatedly inoculate himself with the virus of glanders taken from a horse discharged as incurable, yet the chemist suffered no bad effects. He believes that in all cases the sickness and death of men supposed to have been the glanders was caused by some other disease. He believes that glanders are confined to the equine race.

—A correspondent of the *Prairie Farmer* says, gather your apples early if you wish to keep them late. Gathered early, they are hard, and it will be sometime—several months—before they will have reached the period of ripening which the ripe apple attains on the tree; so that to pick early, is to put off the ripening time. For very late keeping, gather four weeks before ripe; if wanted for spring use alone, and not early summer, pick a week later; if for February and March, a week later still. Pick your fruit; and from the tree put into the barrel, to be no more touched till used. Handling fruit hastens decay.

—Mr. N. Voss, of Waukegan, Ill., writes to the New York Farmers' Club, that he has succeeded in obviating some of the unpleasantness of a privy by not having any depression below the surface, and placing straw on the ground, which absorbs the moisture, and can easily be removed with a fork once in two or three weeks, with less work than cleaning after a single horse or cow one night. And but very little odor is emitted at any time; nor is it attended with trouble or expense, especially on a farm. The daily addition of a small quantity of dried muck or soil would be an improvement.

EXTRACTS AND REPLIES.

SEEDLING APPLE TREES.—TAP ROOTS OF.—SEEDS OF EVERGREENS.—CULTURE OF HEDGES.

Will you through your valued journal, tell me how to manage with 400 or 500 little apple trees, growing from seed planted this spring? Ought I to take them up and keep them in a cellar this winter?

When transplanted, shall I *cut the tap roots or not?*

When should evergreen seeds (hemlock) be gathered, and when and how planted?

Should I not get a better and more even hedge by raising seedlings, than in any other way? How long ought it to take? S. B. K.

Providence, R. I., Sept., 1869.

Remarks.—Let the apple trees remain until next spring; but if the soil in which they stand is quite moist, mulch them thoroughly with hay, straw, corn buts or branches of evergreens, or the frost will be likely to throw them partly out of the ground.

Transplant into nursery rows next spring, or into the places where you wish them permanently to stand. If we were about planting another orchard, we should take the latter course, and *preserve the whole length of the tap root*, although it is often as long as the tree itself. What is the office of the tap root? Is it not two-fold, to keep the tree firmly in its place, and to find nutriment, especially in seasons of drought? Why, then, is it cut off? In order to save time and labor.

The spruce ripens its seed in the fall, and we suppose the hemlock does also. The evergreen seeds are poor keepers, and should be planted soon after maturity. It is more difficult to raise evergreens from seed in our changeable climate, with its extremes of heat and cold, than in England. We would refer you to a work on "Evergreens," by Josiah Hooper, published by O. Judd & Co., or to Warder's "Hedges and Evergreens," and should be very glad to publish a fuller reply to your inquiries, which we solicit from some one better posted than ourselves on these subjects.

"HORSE-TAIL."

Seeing an invitation for more information on the effects of this weed on horses, I venture to give my experience with it. I have seen it in many of the valleys of the principal rivers in New England, and in hundreds of other moist and wet places. My attention was first called to it seventeen years ago, by Mr. D. D. Clark, of Concord, N. H., who lost a fine horse that exhibited all the symptoms of being poisoned. On making an examination of the hay it was found to contain much of this weed. Remedies were administered, but the horse died.

At that time I had two horses, one of which sickened, refused to eat or drink, became stupid, giddy, staggering; muscles rigid, and in a few hours the animal became as inflexible as a statue and died. The other horse would pick out the hay and eat it, and leave every stock of the horse-tail untouched. I have seen other horses reject it.

Prof. Hayes says he found nothing poisonous in it. But that does not prove that it will not kill a horse. This plant may not be injurious to all horses. In localities where it is abundant, colts may so far habituate themselves to it that they can eat it with apparent safety, as a man by use can eat opium enough in one day to kill several men who had never used it before. I have long believed that the bad condition in which we see many horses in the spring of the year is in a very great measure owing to this noxious weed being mixed with the hay. The old saying, "What is one's meat is another's poison," may apply in this case. Some horses may have a constitution and a power of digestion, sufficient to overcome its deleterious effects. But it will require more than one analysis to prove that this plant is not injurious to some horses. Thousands of farmers and other people feed hay to their horses that they *know* is mixed with this unwholesome weed! I have heard them say, "Well it never killed any of my horses!" If not it was acting as a *slow poison* and in time would tell to disadvantage. All the science in the world cannot make out but what this plant is destructive to the horse—*poison!* Is there an antidote? My experience convinces me that a perfect one can be had by the use of "water pepper," "smart-weed," —*Polygonum Hydropiper*. I have known several valuable horses cured by giving them smart weed, —all the horse would eat, green or dry. Now is the time to cut it. Don't wait till the frost destroys its virtues. It should be cured like hay. Give your horse a pound of it every week, and you will find him much benefited by it. I should almost as soon think of keeping a horse without oats as without smart weed.

There are several other plants beside horse-tail that are poisonous to horses. Among which are Water Hemlock (*Phellandrum*) (*Cicuta?*) Black Bryony, (*Tamus*) and Yew-tree, (*Taxus*). For the last three poisons use smart-weed and powerful cathartics. DR. BOYNTON.

Lawrence, Mass., Sept. 6, 1869.

THE GROWTH OF PLANTS.

EDITORS OF THE NEW ENGLAND FARMER:—The following interesting item has been going the rounds of the press this summer:—

> NOVEL BUT TOO EFFECTIVE METHOD OF RAISING BEANS.—Down East a new and cheap method of raising that important article, the bean, has been discovered. To save poles, sunflower seeds were planted with the beans. The sunflowers came up first, and the beans in time twined beautifully around the stalks. But the sunflowers beat the beans at growing, and soon literally raised the beans, roots and all, high and dry, from one to five feet above the ground.

After I had enjoyed the reading of this several times, it occurred to me to test its truth. Selecting a thrifty sunflower in my garden, I tied a string round the stalk just above where a leaf grew out, so that it could not slip, and attached a stick just swinging clear of the ground at its lower end. Since then the sunflower has grown about three feet—has got its full growth, in fact—and yet the stick has not been raised in the least. But if the sunflower stock did not go up at that particular point where I happened to tie the string, why should it at any other point; or, in other words, how could the beans, in the above story, be pulled out of the ground?

This story, however, had reminded me of an old query. When I was a boy and lived on the banks of the Saco river, I used to hear the comparative heights of memorable freshets settled by reference to spikes driven into trees growing by the river's edge. I asked if those spikes in thrifty trees might not be carried above their original height from the ground, but my father and all the old river men said no. I confess, however, that I always had my doubts. But if the law of growth in sunflowers and trees is the same—and why shouldn't it be?—this little experiment would seem to prove that my father and the river men were right, and that the above bean story is a humbug. C.

Boston, Mass., Sept. 7, 1869.

REMARKS.—With opportunities for watching the growth of trees and other vegetables constantly before us, it is singular that such paragraphs as the above, and that other of a tree which grew up through the hole in an old millstone until it filled it and then gradually raised the stone from the earth and wore it like a crinoline about its trunk, should be sufficiently credited to obtain so general circulation.

A SICK COW.

Can you or any of your correspondents tell me of a remedy that will cure my cow? She became sick early last spring, and bloated badly from eating potatoes. She has now so far got over her sickness, that she eats well and appears well, with the exception of being bloated very badly every night. In the morning there is no appearance of bloat. In rainy weather, when she eats wet grass, she bloats worse than when she eats it dry.

Lunenburg, Vt., 1869. C J. C.

REMARKS.—We know little of the proper remedies for sick cattle, but would suggest in this case to feed the cow on *cut feed;* that is, hay cut and mingled with a moderate amount of corn, oats, or barley meal,—adding a little salt three times a week. Old potatoes should be fed out in very small portions. We have known horses killed by eating them in the spring.

NORWAY OATS.

I forward you a sample of Norway oats, grown in a field of three acres which harvested 220 bushels of very heavy and clean oats. The seed used was direct from the proprietor and originator, Col. D. W. Ramsdell of Chelsea, Vt., and just 165 lbs. were sown. The heads are but a fair sample of nearly the whole field, and were cut at different stages while maturing. The two which are fully ripe contain 140 and 150 well-developed grains in each head. The green ones show the manner in which they grow. We found beside an ordinary yield that the grain stood up better than any of our common oats and that we could get as good a "stock" from them as from wheat or rye, which is a most valuable acquisition in any grain for farmers to sow.

Other parties have advertised Norway oats, both "white and black," and sold them as genuine seed. In Pennsylvania the swindle has been operated to some extent, by parties, I am sorry to say, who publish an agricultural journal, as well as by our own people here in Vermont. H. C. P.

Hartford, Vt., Sept. 7, 1869.

Please find enclosed a head of Norway oats, grown on my farm, that, I think, beats all you have published in regard to them. I count 143 hulls or pods, and there are two grains in most of them, making nearly 286 grains on the head; and there are any quantity of heads like it. They are the genuine Norways, sown after a crop of potatoes with *no* manure this season. All crops look well except corn. The principal crop here, is potatoes for the factory. G. H. Watson.

Lancaster, N. H., Sept. 7, 1869.

While visiting the farm of H. H. Sargent in Plymouth, Vt., last week, my attention was called to a field of Norway oats, from half a bushel, sowed May 12. There are from four to nine stalks from each seed. The average height from ground to top oat is four feet. Average number of grains to each head, as far as counted, was 175; in one head from a bunch of nine straws we counted 224 good oats, and 28 missing, as was seen by the empty hulls. Heads generally from eight to sixteen inches, though there were those twenty-two inches in length. All measured with a pocket rule, not guessed at. When threshed will report result.

Ludlow, Vt., Sept. 6, 1869. James Pollard.

BUNCH ON A HORSE'S SHOULDER.

What shall I do for a colt that has a bunch on the upper point of his shoulder blade. I expect it was caused by a bruise some six months ago.

Blandford, Mass., Sept., 1869. A Subscriber.

Remarks.—Rub it daily with the hand, with the tincture of arnica. Get arnica blossoms of the apothecary, put them into alcohol until they are thoroughly soaked. Put twenty drops of this tincture into a wine glass full of water, and rub the bunch, and about it, for twenty minutes once or twice each day. Keep the tincture corked tightly, and have it always on hand, as it is the best remedy for kicks or bruises of any kind, of anything in our knowledge. It is also among the cheapest, as a half pint of alcohol, and ten cents worth of arnica will last a year or two if used judiciously.

WILD CHERRY LEAVES.

Perhaps you will remember of my writing you about a sick yearling, which I lost near this time a year ago. From the description I gave, you thought cherry leaves must be the cause. I have since moved into York State with my stock, where they browse daily on cherry leaves; and I think if they live through the fall, I shall be of the opinion that cherry leaves are good for cattle instead of poisonous. The cattle are now in good order. The cows give a good quantity of milk, and our butter is nice and of a rich color. Grass, as well as cherry leaves, grows here. I saved a single stalk which grew near my house, that measured six feet and seven inches. If the farmers of New England can produce a taller one, I hope they will measure it, and let us know. A. Niles.

Irona, N. Y., Aug. 23, 1869.

Remarks.—The statement above would scarcely change our opinion with regard to the poisonous qualities of wild cherry leaves. People have been known to chew opium and swallow arsenic, and live many years afterwards, but when they increase the quantity too much, they suddenly die. And so it may be with cattle. Where the feed is good, they may take an occasional nip of wild cherry leaves, and suffer no harm; but if the grass is scanty and dry, they would be quite likely to eat sufficiently of the fresh and juicy cherry leaves to cause death.

"*Grass*, as well as cherry leaves, grows here," says our correspondent, and we think that is the reason why his cattle are not injured in their new pasture.

Our advice would be to cut down and cast into the fire every wild cherry tree on the farm, as they are a complete nursery for caterpillars, and are, without much doubt, poisonous to cattle, under some circumstances, which may not be well understood.

SWALLOW-TAIL BUTTERFLY—*Papilio Turnus.*

The worm you have just sent me from Mr. J. T. Lurvey, of Melrose, Mass., is the full grown caterpillar of *Papilio Turnus*, our large, black striped, yellow "swallow-tail" butterfly. Very truly, Sam'l H. Scudder.

Natural History Rooms, Boston, Sept 13, 1869.

Remarks.—We copy the following description of the *larva*, or worm state, of this species, from a publication by the Smithsonian Institute, entitled "Synopsis of the Lepidoptera of North America" —"green above, whitish below; sides with seven oblique, greenish stripes; between the fourth and fifth segments a transverse band, yellow before, black behind; on the third segment a lateral, ascellated spot, with two blue pupils; head flesh color, neck yellow; feeds on various species of *Prunus*." The two horns or feelers, which particularly attracted the attention of Mr. Lurvey, are noticed as "two retractile tentacles protruding from the first segment." The perfect insect or butterfly measures from three to four inches across the wings, and is found in the United States generally.

NORWAY OATS.

I have a small lot of the "Norways," one head of which I send you, which according to my count contains 175 oats and measures fifteen inches. As many as nineteen stalks have sprung from a single oat, the straw of which is from four to six feet in length. F. G. B.

Rutland, Mass., Aug., 1869.

Remarks.—Our correspondent's measure of the head of oats received is correct, and we presume his count is also. A fine head of grain.

We have also received from "A Subscriber to the Eleventh Commandment," Whitefield, N. H., a handsome head of white oats, eleven inches in length, and well filled.

MANURING IN THE FALL.

I have a lot of manure in my barn cellar, just as it was dropped from the stable through the scuttles. It is mixed with an equal amount of loam, used as an absorbent. The horse and the cow manure are separate.

Now suppose after harvesting, I spread this manure on my corn ground, and plough it in three inches, will it not thoroughly ferment and become impregnated with the soil? Where it now lies, it is not *wet*—only *damp*, and lies up light, and I had the impression that the horse manure would become *fine* in the soil, without throwing over and refining before spreading; and that where both horse and cow manure were spread, the soil in spring would be in excellent condition for corn again. J. W. Snow.

Cumberland, R. I., Aug., 1869.

Remarks.—You are precisely right, according to our ideas, in regard to using green manure in the fall. If ploughed under in the most crude condition, it will undergo a slight fermentation, and the escaping gases will be absorbed and retained by the soil. It will make the land rich and light, and place it in the best possible condition to feed a crop the next season, so far as the manure is concerned. It is, probably, the best possible way to use manure.

NORWAY OATS.

In a late number of the Farmer, I read your description of a fine field of Norway oats; three heads of which contained respectively seventy-five, seventy nine and ninety grains. On which I went to a piece of my oats of the same variety, and selected three heads that gave 240, 229 and 217 grains each. Then I selected five heads, all from one seed, with the following result,—155, 214, 226, 219 and 237 grains, which make ten hundred fifty-two grains, all from one seed. G. P. Hibbard.

East Brookfield, Vt., Aug. 23, 1869.

SWEDEN OATS.

A friend of mine gave me a handful of oats—less than half a pint—which were brought from Sweden last season. I sowed them about the first of June, on land that was not highly manured last year and *not at all* this. Enclosed find a head of oats raised from that seed. It has 110 grains, if counted correctly. Many other heads have as many. The average growth of stalk is four feet. Have not harvested them yet. If I live another year you may expect to hear from them again.

Temple, N. H., Sept. 6, 1869. Daniel Felt.

Remarks.—Head full thirteen inches in length. It is a white oat of very fine appearance.

BLACK-LEG.

In the Farmer of July 17, (Monthly, page 413,) I read a communication upon black leg that was of interest to me, as I had just lost a calf by that disease. And having had a little experience since then with the disease, I send the following statement to you, thinking perhaps it may be of interest to some of the readers of your valuable paper.

About two weeks after losing the calf above referred to, another was taken in the same manner, lame in one hind leg. I immediately upon the discovery of the attack, made an incision through the skin, and slightly into the flesh of the thigh, of some five or six inches in length, and filled it with fine salt and sewed it up. In about six hours the lameness had decreased in the hind leg, but he was lame in one fore leg. I then performed the same operation on the shoulder, after which for two or three days he seemed to be doing well, and had nearly recovered from his lameness, when the other fore leg was taken lame. I then cut a smaller gash in this shoulder, treating it the same; but in twelve hours after he was much worse, being so bad he could hardly touch his foot to the floor. I then made a longer and deeper cut, and found the flesh quite dark. Into this I put all the salt the wound would contain. This has effected a cure, I think, as this was five or six weeks ago, and the calf is now in a thriving condition, and to all appearance quite well.

The cause of the disease in this case, it appears to me, could not have been any sudden change in flesh or condition, as there was no such change. In both cases the animals were in a fair thriving condition. I attribute it to their drinking muddy water, as they had been under the necessity of drinking that or none for some time. I have been told by others since then, that drinking muddy water would produce black-leg. L. Jones, Jr.

Dover, Vt., Aug. 30, 1869.

ATTLEBORO' FARMERS' CLUB.

Subject discussed at the session of September 6, held at Charles Hayward's—*Improvement of Dairy Stock.* George Pierce, President, remarked that there are between 800 and 900 cows in town, and the greater part are comparatively inferior. Can some one mention some way in which each cow can be made to give at least one quart per day more, and so add over $8000 to the income of the town in one year.

Mr. S. M. Stanley thought that more than one quart per day can be gained by better feed and care.

Mr. C. Hayward said that in addition to good care, you must have good stock. In order to get good stock, we must select the best breeds, and then breed from the best animals of that race.

H. K. W. Allen remarked that as far as his experience goes, he has found the Alderney or Jersey to be the best stock for butter; the Durham for beef, and Ayrshire for beef and milk. It was decided that the Ayrshires were best adapted to the wants of the farmers of Attleboro'.

Mr. Wetherell, of the *Boston Cultivator*, addressed the meeting on this subject, and gave the farmers some very useful and important information.

The meeting was then adjourned for two weeks to meet at the farm of S. M. Stanley, Monday, Sept 20th at 1½ o'clock. Subject "The Art of Farming." J. E. Hunt, *Sec'y.*

SUDDENLY DRIED UP.

I have a three-year-old heifer which has been giving about a pail of milk to a milking, until a day or two since, when she suddenly dried up to about half a pint to a milking. She eats the same as usual; chews her cud and seems perfectly well. Can some of your readers tell me what is the matter, and what is good for her, and oblige a subscriber. S. W. K.

Stoughton, Mass., Sept. 1, 1869.

Remarks.—We can scarcely conceive of such a sudden change, and are entirely at a loss to account for it. Who can tell?

POULTICE FOR DRY AND HARD HOOFS—DRAFT FOR FEET AND LUNGS OF CHILDREN.

A subscriber in East Taunton wants to know what to do for his horse's feet. I should not use cow manure—think it will create more fever, but would make a poultice of corn meal and soft soap, bind a quantity while warm all around the hoof, top and bottom. Let this be on over night or longer; it will soften the foot the best of anything I know of. If the heels are contracted, there is a patent shoe, made like any shoe except a small lip or spur turned up on the inside near the heel (each side) and the shoe made weak a little back of the toe cork on each side. The shoe is now nailed on and then spread with a pair of tongs a *little;* do this while the hoof is soft; and in a few days a *little* more. Don't spread too much at a time. After you get the hoof soft, keep it so by keeping him off the hard floor.

And I may as well say here that a poultice made of soft soap and corn meal with a little water, and in severe cases a little mustard, is one of the best drafts for the feet or lungs of children. Mothers, try it on your little ones when they have a good deal of fever and cough, so you "can't sleep of nights." Put the drafts on feet and breast. Don't put in but little mustard, so they can keep it on all night. It is well to oil the bottom of the feet and across the lungs first with hen's oil, or lard is very good. M.

Fairfax, Vt., Aug. 22, 1869.

ACCOUNT WITH A BARLEY CROP.

While harvesting their own crops, farmers like to hear how others have succeeded. And possibly some readers of the FARMER may be interested in the following statement of the cultivation and yield of a crop of barley on a hill farm. I kept an exact account of every item of expense, &c. The field measures sixty-two rods, and was broken up and planted to potatoes last year. Nine loads of manure were applied to the land, but as I think manure properly applied will serve for three crops, I charge the barley with one-third of the value of the manure.

BARLEY FIELD.	*Dr.*	
To one-third of nine loads manure at $1.00	$3.00	
Ploughing and harrowing ⅝ day, span horses, at $3.75	2.50	
Seed barley, two bushels, at $1.75	3.50	
Sowing	15	
Cutting and raking	1.50	
Getting in	75	
Threshing, three days, at $1.25	3.75	
Cleaning up	75	
Interest on land at 6 per ct. on $20 per acre	46	
		$16 36
BARLEY FIELD.	*Cr.*	
By 21½ bushels barley, at $1.25	$26.87	
Straw	5.00	
		$31 87
Profit		$15 51

GEORGE H. PIERCE.

Marlow, N. H., Sept. 6, 1869.

BAROMETRIC SPRING.

A never-failing spring of pure soft water on our farm not only supplies a refreshing drink to the stock, but is a perfectly reliable *rain prophet*. Without any fee by way of bribe, or any incantations, or *any known procuring cause*, it overflows with a sudden rush, and within thirty-six hours thereafter, there comes a rain fall. Summer and winter, in wet seasons and in the severest drought, it never fails to give its seasonable premonition.

The hidden arteries which supply this spring have been traced to some rocky highlands, with swampy intervales, a fourth of a mile from the place of out-flow. The main artery has been tapped by a well thirty rods from the spring, and found to be twenty-four feet below the surface. The well, like the spring, is never dry.

In wet seasons, the spring sends forth, on the average, a stream sufficient to fill an eight or ten inch pipe. After running about one hundred rods, this stream loses itself in a swamp. In the dry season, this stream loses itself in a course of about fifty rods. It diminishes in volume regularly, as other neighboring springs do, with the progress of the summer, or a drought,— except as already indicated.

During the last week of August, and the first four days of September, the water diminished rapidly, scarcely enough flowing to fill a two-inch pipe. On Sabbath, Sept. 5., the stream was unusually sluggish, reaching only about forty rods from the spring. Monday morning, the 6th, it was pouring forth, having more than doubled in volume, and filling its channel for a distance of not less than eighty rods. Tuesday noon, as I write this, the blessed rain is falling copiously, and my little spring has, for perhaps the thousandth time since our acquaintance began, proved a true prophet.

Here are the facts, who will explain the cause?

J. H. TEMPLE.

Framingham, Mass., Sept. 7, 1869.

SALTPETRE FOR BLOODY MILK.

I have a heifer that gave bloody milk six weeks or more this season. There was no trouble with the bag that I could see or feel. I gave her saltpetre every other day most of the time, while the milk was bloody. Her milk is all good now.

Westboro', Mass., Aug. 29, 1869. W. S. GROW.

"G. W. C.," BERWICK, ME.—Our correspondent is informed that the condition in which he finds his cow is not an uncommon one, but one for which no remedy is known. We have known some in heat so often, and always barren, that they were utterly worthless as dairy cows.

AGRICULTURAL ITEMS.

—An experienced Iowa wool-grower gives $1.50 as the probable average cost of keeping a sheep a year in that State.

—Capt. F. Randall, of Lyndon, Vt., reports a hill of potatoes in his garden in which the tops are covered with tubers and none in the hill—an exhibition of nature reversed.—I. W. S.

—A premium of $60 offered by the Massachusetts Horticultural Society for the best seedling pear, has been awarded to the variety known as the Clapp's Favorite, after a trial of five years.

—The apple crop of Michigan this year is abundant in some places and very light in others. Orchards which have been kept in tillage are more productive than those in grass. The present crop of pears is said to be the largest ever produced in Michigan.

—The Massachusetts Agricultural College opened its fall term September 3, with additions to its corps of instructors of Captain H. A. Alvord, of the United States Army, as Professor of Military Science; E. H. Barlow, of Amherst College, instructor of rhetoric and elocution; and Dr. A. S. Packard, Jr., of Salem, leading lecturer on entomology.

—A correspondent of the *Maine Farmer* says that for the two last seasons he has been using wooden boxes lined with slate, for packing butter, which answer a very good purpose and have many advantages above anything that he has ever seen. The boxes can be made of any required size. The joints can be made water tight, they are very cool, easily kept clean, and free from any risk on account of breaking.

—Mr. S. D. Lewis, of Rock County, Wis., writes to the *Prairie Farmer* that he bought a perfectly white, thoroughbred, three-year-old Short-horn heifer, of the W. R. Duncan stock, in spring of

1864. She did well as a milker the first season. In 1865 her milk was measured and her butter weighed. She calved April 20, and from that time till October 10, she averaged thirty-seven quarts of milk a day, and fourteen one-half pounds of butter per week; and from October 10, to March 1, 1866, when she was allowed to go dry, she averaged twenty quarts of milk a day and eight pounds of butter per week. In good condition she would weigh about 1700 pounds.

For the New England Farmer.

NEW ENGLAND FAIR AT PORTLAND.

The sixth exhibition of this society has been held, and each State represented in its organization has had the honor of having one of its Fairs within its limits. It is not my intention to attempt at this late day a detailed report of the late fair, but simply to indulge in a few reflections or criticisms.

Whenever a society holds its fairs in different places, it is expected that the members living in the locality where it is held will make special exertions to have their section of country well represented. And when it came to the turn of the largest and best agricultural State of the six, there was every reason to believe this fair would excel all preceding efforts; that the earnest co-operation of the Maine State Society would have made this a grand exhibition of the agriculture of New England; that visitors from other States would have a fine opportunity for seeing the products of Maine and comparing them with those of their own localities.

But in this hope we were disappointed. The contributions of Maine, excepting in horses, would not make a respectable county show, and the exhibition, as a whole, was not what many had been led to expect. Massachusetts contributed to all the departments; Vermont and Connecticut, considering the distance, did very well in the stock department, while New Hampshire and Rhode Island sent very little. It was a noticeable fact that the bulk of the stock belonged to a few individuals. Why some animals were sent, it was difficult to decide, unless it was to swell the number of the herd, or on account of some secret or hidden excellence. However, there were many valuable animals upon the grounds, and their owners deserve credit for the time, money and care they expended, and the risk incurred in bringing them thus before the public. It is pleasant and highly instructive to look at and examine the different breeds, side by side. More can be learned in a few hours by such ocular demonstration than can be gathered from reading pages of descriptions and theorizing.

The more we see of the different breeds, the more thoroughly are we convinced that the Ayrshire is the type for the greater part of New England; while the Shorn-horn families may be preferable for the Connecticut valley and a few other favored localities. The Jersey may rightly be called the gentleman's cow, and probably will continue to be popular in towns and in small rural residences where only one or two cows are kept and where they receive the best of care and keeping. There is a happy medium in the size of all our domestic animals, below or above which it is not profitable to breed. The smallest and most compact structure by which the desired end can be attained, is the best. None will deny this proposition, where work is the leading object. Of two cows of unequal size, but giving the same amount and quality of milk, I should prefer the smaller. There is also as surely a limit, where beef is desired. One could not help noticing the crowds that collected around the fat oxen of monstrous proportions, while fat animals of ordinary size apparently attracted little or no attention. In one of the FARMER's weekly reports of the Brighton market, last spring, the sale of several of the overgrown and extra fat beeves was noted. Their owner came to market with an apparent air of satisfaction, fully persuaded he should receive extra prices, when, after much parleying, he was obliged to sell for one or two cents per pound less than was paid for smaller oxen. Too much tallow and bone to cut up to a profit was the butcher's objection. A bullock dressing about one thousand pounds is the most profitable to retail.

In the sheep pens, three classes were well represented, the Merinos predominating in numbers. Whatever may be the quality and quantity of wool a sheep will produce, it is evident, since it can be so easily transported long distances, there must always be a sharp competition with foreign importation. Something, therefore, besides great wool-producing qualities is needed here, in close proximity to large markets. Thin, lean mutton is, at best, dry picking. Merinos are not popular with butchers. The long wools, like large cattle, are only adapted to rich pastures; hence the middle wool families are likely to return the highest profit in New England, in the long run.

The show of swine was very small in numbers, but was meritorious in quality. No animal improves faster, under careful management, than the hog, and it deteriorates, with equal rapidity, from neglect and injudicious treatment. Since pork has been produced at the West in such quantities and at such low rates, and since the horse, the ox, sheep and even poultry have received so much attention, the porcine race has fallen into the background, and it is confidently affirmed by many that there were better hogs twenty-five years ago, upon our farms, than the average found on them to-day. It was gratifying to meet at the pens a gentleman who has lately entered the arena of stock-breeders, and is making the hog his specialty,—Dr. Calvin Cutter, of

Warren, Mass., author of a work on physiology. The Doctor had numerous specimens of his stock with him, and was untiring in answering questions of the most inquisitive. One of the leading objects sought by him is early maturity, as he believes the profits of keeping swine in this rough, cold climate must be made during warm weather.

Too many American stock-breeders engage in the business for recreation or mere speculation. Having acquired fortunes in other pursuits, they have only a general knowledge of what they undertake, and do not give the personal attention to it which it should receive. but trust all the minutia to others. They enter upon the work suddenly, spend money lavishly, and after awhile leave the business as abruptly, and accomplish comparatively little good. For the improvement of our domestic animals, men are needed who have not only the requisite knowledge, but a taste and love for the business which shall claim much of their time, and a firmness of integrity that shall not only refuse to breed from animals with any blemish, but to sell them to others for such purposes, though solicited to do so.

As might be expected, where a society bestows the major part of its funds upon horsemen, the show in that department was large. Many noted animals were upon the ground and we anticipated a rich treat at the stables. Approaching the first, it was locked; the second was locked; third ditto. Finding that peeping cracks and grated windows didn't pay, we directed our steps to any place where we saw a crowd, which indicated an open door. The stables of Gen. Knox and a few others were wide open, and the attendants courteously answered all questions; but four-fifths of the stables were securely locked, and it was only by chance that even a glimpse of their occupants could be obtained. Now if it is right to lock up the horses from public gaze, why not lock up the cows, sheep and swine? All visitors have not whole days to spend upon the grounds, and what they see must be seen quickly, and is it unreasonable that they claim access to everything upon exhibition?

The exhibition at the hall occupied twelve rooms, two of which were large halls, and so far as space and convenience of arrangement were concerned, they were all that could be desired. But where were the products of the large orchards, dairies, and grain and potato fields of Maine, or of the gardens around Portland and other cities? They should have filled the two largest rooms at least, and crowded the merchants and mechanics into the smaller ones. Do not farmers come to these fairs to see and compare the products of their own labors? Are not these Fairs called agricultural? Why then allow merchants and manufacturers to monopolize the apartments to advertise their wares? Upon this occasion all the vegetables, grain and products of the dairy were consigned to the darkest and smallest of the twelve rooms, and one table in another held all the fruit! The display of flowers, though not large, evinced careful culture and good taste in their arrangement.

The show of potatoes indicated there were present at least two gentlemen who are making this vegetable a study. The specimens of the grower from North Berwick, proved that he knew how to grow potatoes, and his readiness to impart information was particularly gratifying.

There was one feature of the show new to the writer,—the display of the bakers; several of whom presented large and varied assortments. There is no doubt that baking can be done cheapest in large establishments; and if bakers would only use better stock and less chemicals their customers would increase, especially during hot weather. Anything that can be done to encourage the meritorious bakers confers a favor upon the public. And why should not our agricultural societies give greater attention to this branch of domestic economy?

When the winners of prizes, whether for stock or implements, parade their laurels, the thinking man will inquire, Under what circumstances were they won? How great was the competition? The Dutch stock, for instance, has been at several fairs and received as many premiums, there being no other competitors of the kind. How could the committee do otherwise than award them a prize? The same may be said of the few Kerry cattle present upon this occasion, With the Jerseys and Herefords, after dividing the number present into the different classes, and allowing three prizes for each class, the competition was by no means sharp, nor were the labors of the committee perplexing. If there were twenty, thirty or fifty animals competing for a single prize, as at some European fairs, then the successful winner might well exult over his triumph. A prize under those circumstances would be worth contending for, and fairs would well repay breeders for going many miles to attend. N. S. T.

Lawrence, Mass., Sept. 14, 1869.

For the New England Farmer.

HOURS OF LABOR ON THE FARM.

The conclusion of Judge Colburn upon this subject, given in the FARMER of July 31st, does not appear to be applicable to all localities. The farmers of Vermont are highly favored, if they can support themselves by working fewer hours than mechanics. The fact speaks well either for their skill as husbandmen, or for the fertility of their soil.

Would that farmers throughout our land could earn their living by laboring upon an average eight and three-quarters hours per day during the warm season, and not more than an average of eight for the whole year. Then would their occupation assume a different aspect; it would be more attractive to the young, and the aged would have less reason to complain of its unremitting care and toil; while all could experience in a larger measure the ease, comforts, and pleasures which agricultural orators and poets are wont to associate with rural life.

A few years ago farmers and mechanics were everywhere upon about the same level, as regards the number of hours that constituted a day's work, and as to the severity of the labor. In those days carpenters hewed timber, planed boards, made doors, blinds and windows, and got out all the finish by hand; consequently the trades then required strong men and long days, and young men did not leave the farm to find lighter work in them. But since the universal application of machinery to the arts, mechanics have gained great advantages over the tillers of the land. The steam engine, water wheel and horse power are doing the work that used to tax human muscle to the utmost; and mechanics are becoming mere tenders of machines,—the hardest part of which is the steady, close confinement to one thing.

With relief of severe labor, has come a gradual reduction of the time required for a day's work, until now, here in eastern Massachusetts, ten hours constitute a day for carpenters, masons, painters, machinists and laborers in brick-yards, and upon roads, &c. In the cotton and woolen mills and lighter employments, ten to eleven hours are required. Shoe-makers and hatters, who work by the piece, generally accomplish their tasks in eight to nine hours. Mechanics in governmental works are on duty only eight hours. These figures represent the extreme time. There is the usual preparing for work, and at its close cleaning up, washing, &c., to be deducted. This occupies fifteen to thirty minutes, so that mechanics do not really render their employers the above named periods of time. Most promptly do they obey the signal for quitting work. School-boys do not watch more closely the hour for dismission. Be business ever so pressing, or weather ever so favorable, all extra time is over-work, and is paid for at a high rate of compensation.

Upon every well regulated farm it is expected that the milking should be done, stock fed, working animals cleaned, breakfast over and all hands ready for the field by seven o'clock. One hour for dinner, or less, according to the press for work; then five hours more in the field, with supper about six, after which come the evening chores. Here are ten hours labor in the field, beside the regular morning and evening chores.

This is not a low estimate, for upon many milk farms, morning milking commences at five o'clock, and upon some as early as four, throughout the year. On market gardens about Boston, fifteen and sixteen hours are required of all hands working by the season. Day hands do not make as many hours, but these are only usually employed for fair weather.

Farmers lose no more time than carpenters or any other out-door laborers, on account of wet weather, and make as long days in winter; for, with modern farm buildings, there is plenty to be done during storms and extreme cold, in the manure cellar and tool-room,—cleaning and painting wagons and carts, cutting roots, hay and cornstalks, keeping all kinds of stock clean and comfortable.

There are some, and I believe Judge C. is one, who do not regard "chores" or barn work as a part of a day's labor. By what rule or principle they arrive at this conclusion, I do not understand. Certainly the followers of the various trades do not work two or three hours per day without compensation, however trifling the service rendered may seem. The moment the first blow is struck their time begins. The same rule should apply to farm hands. From the time of taking an implement in hand, their day should begin.

The advantages which mechanics now enjoy over farmers, are the chief cause of the scarcity and poor quality of farm help, and one great reason why farmers' sons are so eager to leave their homes and their fathers' occupation. Farmers have something to do to reach the ground now attained by mechanics. Every device which inventive genius can suggest to lighten the wear and tear of human muscle should be adopted. The days should be shortened as much as possible. But, oh, this is a difficult part of the problem. It will require a long time to bring about that harmony and concerted action we see among mechanics. If many plans have been proposed and failed, let us not despair, for perhaps Congress can, at a single act, settle this question and give the desired relief, since it has recently reduced the hours of labor for a large class of our citizens, and by a stroke of the executive pen decreed that they shall receive the same wages as when they wrought ten hours.

O, ye legislators, when ye come to our autumnal fairs to look upon your constituency and talk about the pleasures of rural life, the wonderful developments of our country, the great importance of an honest and intelligent yeomanry to a nation's welfare, and excite our vanity generally, tell us something new! Explain this labor question, if you please, and say why one class of our citizens should work only eight hours and still receive the same wages as those who labor ten upon the same kind of work; and show us farmers how we can accomplish as much for ourselves, our families and our country in a short day's labor as in a long one; or, in other words, how to manage our farms on the short time movement. Is not equality of rights the acknowledged main spring in legislation? and we desire to share equally in the toils and rewards of labor, as well as enjoy equal rights in politics and religion. N. S. T.

Lawrence, Mass., Aug. 20, 1869.

Remarks.—So far as we are acquainted with the rules in force at factories and shops, the "preparing for work" at the commencement of a day's work, and the "cleaning up, washing, &c.," at its close, spoken of by our correspondent as occupying from fifteen to thirty minutes, are not done in "working hours," but before or after the striking of the bell, or the blowing of the whistle, which marks the beginning and ending of working time.

For the New England Farmer.

WHEAT RAISING.

Reply to "John"—Sod Ground—Ploughing in Manure—Leaching and Evaporation—High Culture.

Your excellent correspondent "John,"—who doubtless has a surname which many of us would like to know, asks the question "sod land is good for spring wheat?"

My answer is briefly this. No time must be lost for the spring crop. Hence your "early corn land" will have but an insignificant green sward to plough in seasonable for the wheat, and I would recommend that it be ploughed in deep *late this fall*, when in full vegetation. Few of the gases from decomposition will be lost before the ground freezes. The freeze and thaw of winter mellows the furrows for shallow re-ploughing in the spring. Then use Stetson's harrow (the best grain coverer yet discovered) for putting in your fertilizer with the grain, two or more inches deep. Then roll, and I think your chances are good.

Harrowing in grain and half ploughing land, are prominent defects in the cultivation of wheat and other spring crops. The culinary garden is finely pulverized and highly manured—for what? To make the vegetable growth healthy and large. If you desire long parsnips, carrots, beets, &c., you spade or plough deep. I believe this is the true principle in field culture. I would rather bury my green manure six to eight inches deep than have it two inches under the surface to be drawn upon by the hot sun and the drying winds. I doubt the correctness of the theory of "leaching" and believe in the evaporation and exhalation of the gases from the surface. As they permeate the soil, or rise to its surface they nourish the roots of the vegetable. I endorse John's old farmer of ninety, who "ploughs in his manure."

I will briefly give a few facts, though I believe that each one must study and experiment for himself, and if we blunder on better results than those obtained from the teachings o the books or of "science," let us hold fast to that which we find best.

The past summer, I planted a small piece of corn on old land which was very mellow, spading in manure. Another piece adjoining was a stiff soil and the grass six to eight inches high. This was spaded down deep, with no other fertilizer than the sod. The old patch promised best early in the season, but when severe drought came, the grass plot stood it best and produced the best corn; the result, in my opinion, of the decomposition of the deeply buried vegetable matter, the heat and fertilizing properties of which tended to the surface. I also planted Hubbard squashes, using a weak compost of hen manure in the hill. Then by way of experiment I dug a deep hole and put in clear hen manure and covered it six inches with soil, in which I put a single plant. This single vine produced more growth of stalk and more squashes than six other vines, and withstood the drought much better. The ascending gases did the work, whereas if the roots had come in contact with the manure, it would have been almost instant death to the plant

The largest crop of winter wheat—forty-six bushels to the acre—ever raised in Massachusetts was on old pasture land, six miles from Boston. Pig manure was ploughed in. A portion of it lodged in a thunder storm, or the yield would have been over fifty bushels per acre.

How often, when manured in the hill, does corn stand stunted and yellow till the roots get away from the heating manure, and then it begins to grow green and rank. How much larger the crop, if this manure had been spread where all the roots, which are almost innumerable, could have caught up its enriching gases which make the "blade and the ear." Try an acre ploughed in with green manure and an acre dunged out in the hill, with equal quantities. Then another experiment may be worth trying. Put, say, thirty cartloads on *three acres*, in the hill. Then spread and plough in thirty cartloads on *one acre*, and see which will produce the most corn; counting the cost of the hours' and days' labor from the plough to the corn crib, and note the result. The same principle will apply to the grasses and all other farm crops. H. Poor.

Yonkers, N. Y., Sept. 20, 1869.

WHEAT AFTER CLOVER.

In some strictures on the remark made by Dr. Voelker, the great agricultural chemist of England, that "the very best manure for wheat is a good crop of clover," Mr. W. R. Carter, in a communication to the *Canada Farmer* says:—

Clover *is* an excellent preparer of the ground for wheat. From remote ages the farmers in the south of England have sown their wheat in the autumn on their clover leys. But it is only in the *south* of England that wheat succeeds after clover. In the north of England it fails. In Yorkshire, Durham, and all northern counties, the farmer takes oats after clover. Sir James Graham many years ago tried to introduce the south of England plan on his Cumberland estates. He offered great inducements to his tenants. They sowed their winter wheat on their clover leys, and were half ruined by the unfortunate results.

As I have said, under some circumstances wheat after clover fails, and even in the south it is only on the light sandy soils that clover beats farm-yard dung. If that dung were rotten and solid it would beat the clover on the light lands too. To grow wheat at all on those lands it is absolutely necessary to make the land compact. A heavy, bevelled iron wheel follows the plough and compresses the furrow, forming a hard-bottomed drill for the seed. If farm-yard dung, in the condition it is in when generally used by farmers, were ploughed into the light land, the "presser," as it is called, would have little effect, and the crop would be lost. On land of a moderate consistency, good heavy loam, the farm-yard dung would produce a much better crop than clover. And then all good farmers in the south of England top-dress their wheat. Some use guano, some soot—any ammoniacal dressing.

ALSIKE CLOVER.

This new variety of clover is attracting much attention from the West and in Canada, and bids fair to be a valuable addition to our forage plants. We hope it will be tested by some of our enterprising farmers on the soil of New England. We copy the following account of the clover from the *Prairie Farmer*:—

About two miles from St. Charles, is a field of some seven acres of Alsike or Swedish clover, *trifolium hybridum*. This variety of clover was disseminated throughout the West, in a small way by the Patent Office, some years ago; but it is believed that but little or nothing remains of the product of the seeds that were then distributed. The seed with which this field was sowed, was imported by Mr. M. M. Baldridge, last year. His principal design in introducing this new variety of clover, was to furnish a material for bee food, that would be plentiful at a time when other flowers were scarce. He has since become convinced, that the new plant has other claims than that of a producer of honey; that it will furnish abundant forage for cattle as well as food for bees.

This clover, as its name implies, is a hybrid of the ordinary red and white clover; and while it partakes somewhat of the nature of both of these, it has some peculiarities that belong to neither of them. Its roots are fibrous, and of unusual length, which would seem to insure its hardiness and its ability to withstand drought. This abundance of root growth would also show that it will prove a very valuable fertilizer for worn-out fields, and that it will be a desirable crop to precede wheat. The stalks are much smaller than those of red clover, and do not turn dark to the same extent when the plant has matured. The foliage is also much more abundant, and the same is true of the blossoms. The flowers are very beautiful, of larger size than those of the white clover, of pinkish color, and are very fragrant; they also continue longer than those of either variety of the clover that is common with us. In England, they are at pains to have a sufficient amount of fragrant plants in the hay, to impart to it an agreeable scent. A small proportion of this clover grown among Timothy and red top would on this account, we think, be very desirable.

It is said to be more abundant in seeds than either of the other varieties of clover, and, unlike red clover, matures its seeds from the first set of blossoms. When we visited the field it was past the season of full blossoming, but the leaves were still green and the stalks showed no signs of blackening. Only four pounds of seed were sown to the acre, but the stalks were sufficiently thick, and we should judge the yield of hay would be from one and a half to two tons to the acre. This clover has proved to be very valuable for furnishing honey; the bees coming to it in great swarms from St. Charles, throughout the period the clover remained in blossom. Mr. Baldridge has been so well pleased with this new clover, that this year he has sown over fifty acres of it.

Remarks.—We notice in the *Prairie Farmer* that Mr. H. M. Thomas of Brookline County, sent to the office of that paper a stalk of Alsike clover seven feet and one inch high, and says he could send a ton as nice and as large.

Feeding Whey to Milch Cows.—After having had considerable experience in feeding whey to milch cows, Mr. X. A. Willard says in the *Rural New Yorker* that he regards it as very objectionable. In the first place the nutritive value of whey, of which over ninety-three parts in a hundred are water, is less than is generally supposed. It is very liable to make them scour. Like distillers' slops it increases the quantity of milk, but decreases its quality. In hot weather the milk from cows fed with whey soon sours; and sometimes will show a decidedly acid condition as soon as drawn, if tested with litmus paper. Such milk soon becomes perceptibly sour to the taste and passes rapidly into putrefactive fermentation.

EXTRACTS AND REPLIES.

SEEDING LAND IN THE FALL.

I should like to inquire through the FARMER, if it is a good time to seed land to grass in the fall? I have about one acre, part of which is too wet to seed in the spring. Would it be likely to winter-kill to seed it in the fall? Also, what would be the best kind of seed to sow? I have seen a mixture of red-top, timothy and clover recommended for such land, but never have known the red-top sown in this vicinity. Corn large enough to boil!

Cabot, Vt., Sept. 2, 1869. S. B. BLODGETT.

REMARKS.—It is good husbandry to seed land to grass in the latter days of summer, or the early days in autum. It is a little too late now. If the grass does not root and get a fair hold of the soil, it is quite likely to be started out by frost and be winter killed; yet we have known good farmers to sow clover seed just before the ground froze up.

A good plan would be to prepare the land this fall by thorough ploughing, pulverizing and levelling, and sow eight quarts of timothy seed, one bushel of red-top, and six to ten pounds of clover seed, just as early in the spring as the surface can be properly harrowed. If the land is moist and rich, you will probably get a stout crop the first season. Some, however, object to sowing clover seed early in the spring, believing that the frost kills the young plants, and prefer to delay till danger of frost has passed. But by so doing we are liable to injury from droughts, which often succeed our spring rains. We solicit the opinion of farmers as to the best time for sowing clover seed.

MUD-DAUBER WASPS.—*Pelopæus lunatus.*

I send you a specimen of "homes without hands," which is quite unlike anything I have ever before seen. Two of these singular domicils were located on the walls of the house this season, and I supposed them to be the work of mud wasps. One of the nests, however, fell a few days since, and I was surprised to find it colonized by spiders. A worm of a whitish color and not quite an inch in length, was found among the debris, and like the spiders, exhibited but little vitality. Wishing to learn something of the habits of these little insects, I send you the remaining house and its inmates, and perhaps the transportation may be to them as great an event as the recent removal of the Hotel Pelham, in your city, was to the inhabitants thereof. MATTIE.

Marlboro', Mass., Sept., 1869.

REMARKS.—"And now we approach a great mystery," says Dr. Walsh, in an article on wasps, as he commences a description of this species. He had been describing the various Digger Wasps —see *American Entomologist*, Vol. I., page 122—which dig holes in the ground for their nests, and then remarks that some naturalists, not being aware of the habits of the Mud-daubers, have advanced the erroneous opinion that it is only among the bees and true wasps that we find the habit of constructing nests with materials brought from a distance. This the mud-daubers do. Yet notwithstanding this peculiarity he classes them with the digger wasps, as the differences between the daubers and diggers are not regarded as sufficient to justify distinct classification. Instead of excavating the earth for its nest, the mud-dauber gathers the materials for its construction from the neighborhood of wells and other places where water is habitually slopped upon clayey ground, and plasters them on the interior of buildings or other sheltered spots. These nests are composed of one or more layers or tiers of clay tubes arranged side by side and end to end. Here are the houses of the future offspring of the mother wasp, which she is never to behold, but for which she provides with a wonderful instinct. How she proceeds to carry out her purpose is told by Dr. Walsh, who, in describing the general habits of this class of wasps, says:—

> Flying forth among the trees and bushes, and eagerly scanning the hidden recesses of the most tangled herbage, the female wasp,—and we are almost ashamed to say that it is only the female that works, the male being an idle gentleman who occupies his time entirely in sipping honey and gallanting the ladies,—soon discovers a specimen of the particular kind or kinds of insect or spider, which it is the habit of the species to which she belongs to select. Seizing it and pricking it with her sting just sufficiently to paralyze it forever, but not so as to deprive it of life, she then flies off with it in triumph to the already constructed nest, and returns for additional specimens, till she has accumulated a sufficient supply of meat to feed one of her own larvæ to maturity. She next deposits a single egg among the still living but paralyzed animals that she has collected, seals up the mouth of her nest or cell, usually with earth or tempered clay or fragments of wood, and is off once more to build and provision new nests and repeat the same process over and over again, until her stock of eggs is exhausted. The larvæ that afterwards hatch out from these eggs are in every case soft, legless, whitish maggots, with a somewhat horny head and a strong pair of jaws, but no other weapons whatever, whether offensive or defensive. Yet, strange to relate, they live at their ease among the prey collected for them by maternal forethought; and this prey is often a lot of bees that, if in full vigor would sting them to death in a moment, or a mass of ravenous spiders that, but for the fatal poison infused into their vitals, would like no better sport than to gobble them up at a single mouthful.
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> "But," it will be asked, "why this unnecessary cruelty? Why not at once sting the poor bees, or caterpillars, or spiders to death, and put them out of their misery?" The answer is, that the larvæ of these wasps live several weeks before they are full-fed and ready to form their cocoons; that during all this period they require fresh meat; that the time of the year when these operations take place is during the heats of the summer; and that, throughout that season, insects or spiders that were stung to death would putrify and become unfit for food in a single week. There are seldom any mistakes in Nature. The Power that created the wasp knew what kind of food its larva required; and—whether by direct or indirect means it matters not—He has so organized the mother-insect, that she is enabled and impelled to provide for her offspring the right kind of food, in the right quantity, at the right time, and in the right place. With a vast apparatus of steam-boilers and hermetically sealed cans, man has at length succeeded in preserving meat, fresh and untainted, for an indefinite time. With nothing but her good sharp sting and her little bag of poi-

son attached to it, the female wasp, ever since the creation of the world, has been doing the very same thing in its own department of life. Yet, because the animal is comparatively a small one, we overlook and despise the beauty and simplicity of the process by which it works. In reality, however, this process is just as wonderfully ingenious, as if a ship-owner had the power of provisioning his ship with living sheep and living oxen, manipulated in such a manner that they could be packed in the ship's hold like so many hogsheads; that they should require no food or attendance there, and neither kick nor struggle, nor bellow nor bleat, but lie perfectly still; and yet that, whenever wanted for food, they could be hauled up out of the ship's hold and converted at pleasure into good fresh, juicy beef and mutton.

In some cases, a single caterpillar, or spider, forms sufficient food for a single larva; and then the nest is provisioned with only a single individual. In other cases, as with several species of wood wasps, that bore nests for themselves in timber, and provision them with plant-lice; nearly a hundred individuals are stored up for a single larva. The more usual number is from half a dozen to a dozen. In no known case does any digger wasp attempt to rear more than a single larva in a single nest. As already hinted, each species of digger wasp usually selects a particular species, or, at all events a particular group, either of insects, or of spiders, as food for its young; but there are several exceptions to this rule, owing, no doubt, in part, to the occasional inability of the mother insects to procure the appropriate kind of food in sufficient quantities. Some provision their nests with grasshoppers, some with cockroaches, some with snout beetles of various kinds, some with ants, bees, and in Europe even with honey-bees; a few with different kinds of bugs, frog-spittle insects, and plant-lice; a great number of them with various kinds of two-winged flies, and a still greater number, perhaps, with the larvæ of various moths; and, besides all these, many distinct species, belonging to widely distinct genera, prey upon spiders.

WHEAT TURNED TO CHESS.

I notice in your last issue an item from the *Dixie Farmer*, concerning the changing of wheat to chess. We all know how often this theory has been broached and how strongly defended or attacked, and while myself an unbeliever in any such transmutation, I desire to give you an instance reported to me on good authority,—by an eye witness,—and will leave you and your readers to explain the matter if you can.

About two years ago Mr. P. H. Strong, of Pomfret, Vt., sowed a piece of mowing ground, rather moist soil, near his barn, about three-fourths of an acre, with winter wheat, as nice seed as could be obtained, and not a particle of chess to be found in it. The following spring, to all appearance, the wheat was in good condition, seemingly not winter killed in the least. During June, passers-by commented frequently on its flourishing appearance—stout, thrifty, and promising at least thirty bushels to the acre. On heading out, *the whole piece was chess;* hardly a head of wheat in the field! He cut it for fodder. My informant saw the straw in the barn after cutting, and it was as stout as any wheat straw he had ever seen, and apparently identical in appearance.

Now the question arises, Where did the chess come from, or what became of the wheat? And another query: Has any one ever seen chess in spring wheat?

Now, Mr. Editor, will you tell us whether chess is anything more than imperfect wheat? Will chess grow when planted, or is it like the mule, incapable of propagating its kind? I do not wish to start a controversy, but I know there are many farmers who thoroughly believe in the change or degeneration of wheat to what is called chess, and you may convince them possibly of their error.

Thetford, Vt., Sept., 1869. E.

CULTIVATION OF THE CRANBERRY.

It seems singular that this fruit is so little cultivated, when there is nothing that can be made so profitable to those who will engage in it. When you can get from $10 to $25 per barrel for the fruit, what is there that will pay so well about the farm? I see large pieces of land on many farms, now lying worthless to their owners, which would bring them almost fortunes in a few years if they were got into good cranberry meadows.

MODE OF CULTIVATION.—The swamp or meadow should be thoroughly drained, the surface soil taken off from six inches to one foot deep, being sure to take all the grass and weed roots out, as the vines will do nothing if they are suffered to grow with them; then sand should be carted on about six inches deep—coarse, yellow sand is the best; when this cannot be obtained gravel will do. The vines should then be set from one to two feet apart, just as you like, in small bunches; the nearer they are set the sooner they will cover the ground. Build a dam so as to flow them in the fall. Keep the water on all winter, and till about the middle of May. They will begin to fruit the second year, and will increase for ten or twelve years, when they should be reset. They frequently produce, in good locations, from four to six bushels per rod. Vines can be obtained in this neighborhood at a reasonable price. GEO. M. WONSON.

East Gloucester, Mass., Sept. 16, 1869.

NATIVE OATS.

Mr. M. C. Peck, of Benson, Vt., has left with us a stool of forty-two stalks from one kernel, which came up in a potato field on the farm of Elliott E. Smith of that town, from seed probably dropped in the manure. He was not able to give the number of grains, as the hens harvested the crop and neglected to keep a record. It shows, however, that under favorable circumstances our ordinary oat is not far behind the crack varieties.

TOP DRESSING.

Last year I had a piece of grass land that for two years had borne but very little, and I concluded to plough it and cultivate it a year or two. Early in the fall I gave it a good coat of manure, intending to plough it under at once; but being delayed a little, I found the grass started finely, and, with the advice of a neighbor who watched it closely, I concluded to leave it and see what would be the result upon the crop. Last spring the grass started and grew finely, and I cut a heavy crop of hay, of the first quality. A strip on one side of the piece was not manured, and the hay was much lighter; but a good second crop of clover has sprung up on it, while on the manured part, scarcely any clover appears. Why is this? The grass on both parts was alike last year. If I can obtain manure, I intend to give it another dressing this year.

GRAPES.

I have a Concord vine that has borne a few grapes several years. I have cut the vines back to two eyes, every fall, until last year, when thinking I could obtain more fruit by leaving more vine, I left them three or four feet long. This year it hangs full of grapes, but the wet and cold weather has retarded their growth. They are small and later than usual. I fear they will not ripen. We had frost in low places the 7th, 9th, and 31st of last month, and the 1st and 2nd of this, but I think no damage was done. GRANITE.

Bloomfield, C. W., 9th mo., 1869.

BARREN APPLE TREES.

I have an apple tree which blossoms full every year, but never bears any apples. Can you inform me of anything I can do to the tree to make it bear? My land is a light plain land.

North Orange, Vt., 1869. F. G. HOLDEN.

REMARKS.—About two years ago we published a statement by a Wardsboro', Vt., farmer, who accomplished this object by taking a ring of bark 2¼ inches wide from a limb of a barren tree, when it was in blossom. In a communication just received the writer, who styled himself "An apology for a Farmer," says: "That limb retained its vitality through the season, and the apples remained on it until harvest time, when it died. Last year I rung two limbs on the same tree, taking only about ⅛ of an inch in width of bark, entirely around the limbs, with the same result as to their fruitfulness. These two limbs bore more apples than all the rest of the tree. During the season the bark formed a connection, and those limbs are thrifty this year. This should be done when the tree is in full blossom. Some recommend splitting the bark of the tree in several places; but so far as I have tried it is not so beneficial as ringing. Pruning apple trees is too much neglected. I pruned a tree last winter which had borne but very few apples for several years, which now has a larger quantity than formerly. Again, the land is not kept rich enough in orchards. It should be kept in as high a state of cultivation as is required for corn or even squashes. The grass, also, should be kept away from the trees, and the ground made light. Many set their trees too close together; forty feet apart is plenty close enough, in my opinion."

A very successful fruit raiser near Boston, in addition to such cultivation of his orchard as enables him to raise squashes between the rows, puts coarse meadow hay around the trees, as a mulch, which remains during the hot, growing season. A load or two of muck might benefit your tree. When the country was new, fruit grew almost spontaneously; now it must be *cultivated*, as other crops are cultivated and tended, especially if the trees are set on "light plain land."

THE CREEPING CLOVER.—*Trifolium Procumbens.*

I send you enclosed some seeds of what seems to be a species of clover. It runs like a vine, has yellow blossoms and a leaf like clover.

You may be familiar with this species, but as it is new to me, I send it for your inspection.

It grows in our factory yard, and I have no doubt the seed must have come in the wool received. THOS. TALBOT.

Lowell, Mass., Aug. 23, 1869.

REMARKS.—This is a beautiful little plant, and besides the botanical name given above, is called *yellow clover*, as it has a yellow blossom; or *Trifoil*, because the leaf branches into three parts, and nearly representing a circle.

We found this clover in the wheat fields, and some other places, in Addison County, Vt., a few weeks ago, where it was looked upon as a new comer. The people had given it the appropriate name of *creeping clover*, on account of its vine-like appearance. We have never seen it until this season, nor had the people there. It is also new to our correspondent. Wood, in his work on Botany, says this plant is indigenous from New Hampshire to Virginia. Where has it been that so many persons have not seen it? What peculiar condition of the soil or atmosphere has made it active now? Who can tell?

CRAB APPLES.

I send you, by express, half a bushel, comprising a few of the varieties of my Crab Apples. The fruit this year is not of usual size. I put in a cluster of the Rose of Stanstead, twenty-two in number, which I hope will arrive in good order, that you may see how beautifully they grow. I have similar clusters of from ten to sixty apples. A few of the thirty varieties that I have are wrapped separately, with name attached. I have other varieties that equal or excel those sent. My rule for preserving this fruit is, one pound of sugar to one pound of apple, boiled until soft.

Derby Centre, Vt., Sept. 29, 1869. B. BRYANT.

REMARKS.—In the WEEKLY FARMER, June 26, and at page 380 of the MONTHLY, an illustrated article on crab apples was published. Mr. Warder, in his American Pomology, says that our native crab,—*Pyrus coronaria*,—though showing some slight tendency to variation, has never departed from the strongly marked normal type. These specimens we suppose are of the Siberian crab,—*Pyrus baccata*,—which Mr. Warder says has wonderfully improved under culture, and has produced some quite distinct varieties. The Siberian is adapted to a northern latitude, and we had no idea of the size and variety of this fruit until we saw it exhibited at the Fair at Burlington of the Vermont State Agricultural Society. Here were over one hundred varieties from the grounds of a single exhibitor.

Among the varieties marked by Mr. Bryant were "Blushing Maid," weighing three ounces, "Montreal Beauty," "Ladies' Favorite," "Rose of Stanstead," &c., all of fair apple size. Most of the fruit is nicely colored, and presents a fine appearance.

GARGET.

We have a cow bought in April, said to have calved in January. After we had kept her a short time, she began to give clotted milk, for about two milkings at a time, once in two or three weeks. On the evening of July 6, I found the right hind quarter of her bag badly caked, milk dirty and clotted, and three quarts less than usual at night. Milk continued poor for four days. The milk in the other three quarters appeared as good as usual. After this her milk was good for two months. September 10, I drew one-half a teacupful of clotted milk from the same hind quarter. The

history of the cow previous to April is unknown to me. She is a good milker, about eight years old.
Melrose, Mass., Sept. 20, 1869. S.

Remarks.—You have given a correct description of a disease too well known among dairymen as the garget. In our younger days poke or garget root was the common remedy. A bit of the root, the length of one's finger and half its thickness, was put into a potato and given every other morning. A farmer in Roxbury, Mass., told us last year that he finds a few messes of beans, half a pint at a time, once or twice a day, a sure cure. Tomatoes have also proved beneficial. Others treat a gargety cow much as they do themselves for a cold—keeping her in a stable with a warm dry bed, with a nourishing but light diet. The doctors recommend doses of twenty grains of Iodide of Potash, given three times a day in her drink. One ounce makes twenty-four doses of this size.

SOURING OF PORK BRINE.

Will the Editor, or some of the readers of the Farmer, tell me the cause of pork brine souring, and what will prevent it? I salted one-half of a pig last fall, using Liverpool salt, and about four weeks ago the brine began to sour. There is nearly a peck of salt in the bottom of the barrel. The barrel had been used before, but appeared to be sweet. Some say it will sour in a brown ash barrel? Is that the cause? J. L. M.
Jay, Me., Sept. 10, 1869.

Remarks.—It is the first instance of souring of brine that we have heard. Only one reason occurs to us that should cause it, and that is the use of *Liverpool salt*. Packers in this region never use that salt for pork. Some years ago the United States Government instituted experiments in the use of salt for packing meats, and the report was that Liverpool salt is unfit for preserving pork. It will answer for beef, we think it stated, but not for pork, as it is said to contain too much of the sulphate of lime. Use good rock salt, such as is called "coarse fine," and the brown ash barrel will be harmless, probably.

SWAMP MUCK AND STABLE MANURE.

Will you inform me through the columns of the Farmer whether it will pay to draw swamp muck a distance of three miles, at a cost of ten cents per load? Can draw fifty bushels per load.

Which would be the most profitable, the muck drawn that distance, or stable manure a distance of six miles, at a cost of one dollar per load?
Williston, Vt., Sept. 5, 1869. Onyx.

Remarks.—If your statement is understood correctly, it is that the first cost of the muck is ten cents, to which is to be added the cost of hauling; and the first cost of the stable manure, one dollar, beside expense of transportation. By way of reply, let us ask you a question. If you have experience in the use and results of good muck, do you think that good stable manure is worth *ten times* as much per cord, or load, as good muck, with the cost of three additional miles to be added? With a great deal of experience in the use of muck on various soils, we do not hesitate to say that we should decidedly select the muck if it is of good quality. Still as we should favor a mixture of the muck and the manure, why not try some of both together, say one cord of manure to two or three of muck, well mixed; and with each separately, and benefit the readers of the Farmer by reporting the result of your experiments.

FORETELLING THE CHARACTER OF THE SUGAR SEASON.

For many years I have been trying to find out some way or rule by which I could tell, in advance, the probable yield of maple sap,—whether large or small. With all farmers who have large sugar orchards this would be an important item, could a rule be found to this end; for fixtures and help would be secured accordingly.

Some winters when we have had but little snow, and the ground has been frozen to a great depth, I have noticed that in the spring following, we had a heavy flow of sap, and a large quantity of sugar was made; again, I have noticed that when we have had a large quantity of snow, and the ground but little frozen, the spring following would be an excellent sugar season.

Up to the present, I have not been able to determine, in *advance*, the yield. Presuming that other sugar-makers are as ignorant upon this point as myself, I wish to call the attention of all interested in this matter to an *Indian* rule on this point, which I learned a few years since, and have since carefully noticed, and thus far without a failure, in my locality. The statement of the rule or law, is this: If the maple leaves ripen and turn yellow, and the buds perfect themselves so that the leaves fall off naturally, without frost, then there will be a good flow of sap the following spring; but if there is a hard frost that kills the leaves, and they fall off prematurely, before the bud is perfected, then we may look for a poor yield of sap. In other words, the flow of sap will be more or less abundant in proportion to the ripeness of the tree before frosts the previous autumn. I invite the observation of sugar makers as to the correctness of this rule in their localities.

Timothy Wheeler.
Waterbury Centre, Vt., Sept. 25, 1869.

KEROSENE FOR LICE ON CATTLE.

The use of kerosene oil for the destruction of lice on cattle has been condemned by some of the writers for the Farmer. Used as has been stated, it may justly be condemned, and every body cautioned against it. But I have used it with perfect safety and with entire success. To one pint of lard oil add a single table spoonful of kerosene, and after mixing them well together apply one-half of it to a common sized animal with a sponge or rag, rubbing it in well from head to tail, and in three or four days use the other half in the same way. In these proportions I will warrant the ointment safe and sure. F. G. Holden.
North Orange, Vt., 1869.

FOOT-ROT (?) IN PIGS.

Last spring a farmer in this vicinity had a litter of seven or eight pigs. When a week or two old they showed signs of disease in their feet and legs, which seemed like the foot rot in sheep. He did nothing for them, and they began to die off. After losing three or four, his wife began doctoring them, using various kinds of herbs, without success, till there were but two left. Then she thought of tar, and spreading tar on pieces of cloth she wrapped them on the pig's feet, and in a few days they began to heal. But the disease, whatever it was, seemed to settle on the lungs, and their breathing could be heard in the house. Then she tried other remedies, among which was "Mother Bailey's Soothing Syrup;" but one pig persisted in dying in spite of Mother B. The other was taken up for dead, but finding life was not extinct, the farmer's wife gave it a dose of "Condition Powers," and perhaps a second dose, and the powders cured the pig, and to-day it is worth twelve or fifteen dollars. Can any of the readers of the FARMER tell us what ailed the pigs, or what would have cured them? F. D.

Berlin, Vt., Sept. 22, 1869.

SUDDEN FAILURE OF MILK.

Allow me to give my experience in a case similar to that mentioned by "E. W. R.," in FARMER of Sept 25. One night, eight or ten years ago, in June or July, when cows were giving a pailful at a milking, one of my cows gave only about one-half the usual quantity, and the next morning not more than two or three quarts, and by the second morning less than a pint. The cow eat as well as ever, and all that I could discover unnatural was a slight discharge of thick matter from the eye, which formed in scales at the corner, and the horns were as cold where they joined the head as at the tip.

A neighbor told me to put spirits turpentine in the hollow on the top of the neck, back of the head. After four applications, night and morning, the horns were as warm as natural, and the cow gave nearly her usual quantity of milk. Since then I have tried the remedy, always on the first appearance of the disease, several times, and have found one or two applications sufficient. Think I have seen it tried at least a dozen times, and never knew a failure; still I do not know the cause or nature of the disease, or the reason why the turpentine produces the desired effect. STAR.

Chippenhook Springs, Vt., Sept. 27, 1869.

MODE OF TYING UP CATTLE.

I beg through the FARMER to reply to the inquiries of Mr. Jason E. Hart, New Haven, Vt., about tying up cattle, though I feel somewhat diffident, for two reasons. First, I have so frequently answered questions in the FARMER, that I fear lest I should be considered a "bore." Second, that advice from an Englishman may be regarded by some Americans as old fogyism and of questionable utility in this land of "progress." But supposing Mr. H. to be a plain sort of man, like myself, and that he cares little whether the best plan comes from English or Yankee practice, I will as clearly and as briefly as I can give him an idea of the construction of cattle stalls, ways and modes of feeding, watering, tying up, &c., in use by the great ox feeders of England.

The cattle stalls or sheds have floors of brick, stone or boards, laid inclining a little to the cattle's heels, so that all wet runs off into a gutter a few inches *below* the stalls, and is conveyed into a tank below the fold or stable, which receives all the soakings from the fold. This liquid is pumped up into a large iron box, half round, without any top, and which swings on pulleys, so that up hill or down it always hangs even. Thus the liquid manure is conveyed to the grass land and scattered over it much as water is from a street watering machine.

By the side of each ox is a straight, smooth post, firmly fixed, on which is a large iron ring and a chain, similar to a waggon lock chain, which is fixed round the neck of the ox; so that the ox can at pleasure raise his head as high as he likes, and when he lies down or rises, the ring slips up or down the post easily, and is no detriment to the ox in lying down or getting up. The cattle are tied up to face each other, with a road or passage between them, with an outlet at each end, and sufficiently wide for a man to take in as much hay as he can carry on a fork, or a pair of large water buckets with yoke. Between each two head is a half round cratch or crib, for hay, and three troughs. One each for cut turnips, bran-meal and brewers' grains, and the third for water, being lined with lead, so that two animals can drink out of the same trough. A shed of the dimensions you speak of would have several doors behind the cattle to clean out at. The troughs are fixed quite four feet from the ground, the space under them being open.

Stall-fed cattle when put up to feed are not loosed again till taken to the market. All the best meat is stall-fed in England. Thousands of acres of mangolds, Swedes and white stone turnips are grown there and are cut by a machine into slices about 1½ inch wide for cattle and sheep. Some farmers boil their turnips, scald the meal and bran, and mash up together. Before cattle are tied up, they are turned into a field of mangolds or turnips, hurdled off. When the enclosed lot is eaten pretty close, the cattle are moved farther into the field, and a leaner lot takes their place. This process goes on till ready to tie up. I hope my reply will meet your pleasure.

JOHN WHATMORE.

Bridgenorth Farm,
Dunleith, Ill., Sept. 24, 1869.

CONCRETE DOOR-STEPS.

Three years ago I wanted some door-stones. I had some cement left after making a cistern. I made square boxes, at the door where I wanted the steps or door-stones, just in the shape I desired the door-steps. I then mixed up coarse gravel and cement and made a mortar or concrete, mixing in cobble stones, and filled these boxes or moulds. In a short time I removed these moulds and placed boards over the steps for people to walk over till the concrete was hardened. These cement steps remain perfect, neither the frost nor weather having injured them, and they are now so hard that they wear as little by walking over them, as would a common stone.

I think this the cheapest way to get up a set of door-stones. They should be made in the spring of the year, so that they can have the summer and fall to harden in. N. F. ENGLISH.

Hartland, Vt., Sept. 6, 1869.

SICK HOGS WITH PURPLE SPOTS.

Last year my hog was taken sick in hot weather and purple spots appeared on it that were hard like bone. One of my neighbors informed me that some years previous he had a similar case. He showered it with cold water and it got well. I did the same with mine two or three times a day and it recovered. I thought the disease was caused by the hot weather. I had not thrown any water on to it, nor wet its nest as others did.

FARMER STUDENT.

Wardsboro', Vt., Sept. 15, 1869.

PRESERVING EGGS.—A Parisian paper recommends the following method for preservation of eggs:—Dissolve four ounces of beeswax in eight ounces of warm olive oil; in this put the tip of the finger and annoint the egg all around. The oil will immediately be absorbed by the shell and the pores filled up by the wax. If kept in a cool place, the eggs, after two years, will be as good as if fresh laid.

AGRICULTURAL ITEMS.

—The *Maine Farmer* asks, "Is there any consistency in paying a premium of five hundred dollars for the fastest trotting horse and only ten dollars for the best wheat field in the county? There may be, but we cannot see it."

—A correspondent of the *Dixie Farmer* gives a report of the sex of the calves raised on his dairy farm this year. The bull used was a two-years old Alderney. The cows were of different grades. Twenty-eight cows produced fifteen males and thirteen female calves; twelve heifers brought nine male and three female calves.

—Mrs. John S. Jones, of Strafford, N. H., brought fire from Durham sixty-three years ago, and for over sixty-one years that fire was not permitted to go out. Unfortunately about two years ago, this sacred fire, as it may well be called, went out and had to be kindled from fire borrowed at a neighbors.

—Hon. T. S. Humrickhouse, of Coshocton, says in the *Ohio Farmer* that the old and new clips of wool in that section have been all sold, and that, in consequence of the failure to breed them for the last three years, there are but few ewes under four years old. If this thing is continued much longer —God forbid that it should be—our fine wooled flocks will soon have ceased to exist.

—The Bellows Falls, Vt., *Times* says that a few mornings since Dr. O. F. Woods led his horse out to eat in the front-yard, when the discovery was soon made that the horse could not eat. An examination showed a shingle nail standing upright inside the lower jaw. It was soon removed and the horse commenced eating all right. The nail must have got in by eating oats or hay, and entered the jaw in this singular manner.

—For worms in calves' windpipes, a disease most prevalent in dry summers, and often occasioning great mortality, our correspondent, V. M. Hubbard, Rochester, Vt., communicates to the Woodstock *Standard*, the following remedy:— Asafœtida, 3 ounces; aloes, 3 ounces; vinegar 1 quart. Boil together till dissolved. Give each calf a tablespoonful in each nostril every third morning, taking care to hold the head well up to prevent waste.

—Mr. I. Sanborn writes to the *Country Gentleman* that the durability of shingles will be much increased by dipping them into gas tar and rosin boiled into a pitch, while boiling hot; they need not be dipped within six inches of the top. A lively hand will do 2000 per day, and boil the pitch. It expels all dampness and fills up all cracks and worm holes, and makes them next to slate. They have been on his house since 1856, lie very close, are sound, and to all appearance will last thirty years to come.

—The Lewiston, Me., *Journal* says that E. L. Sturtevant, a graduate of Bowdoin, class of '63, and a native of Winthrop, is now devoting himself to scientific farming in South Framingham, Mass. Mr. Sturtevant has been to Europe this season and imported choice Ayrshire stock, sheep from Scotland, &c. He has on his farm six milch cows and sends milk to the Boston market. He is experimenting on the ratio of food to milk, relative value of food, &c. He has a farm of about two hundred acres, and raises fruit, hay, grain, &c., in abundance.

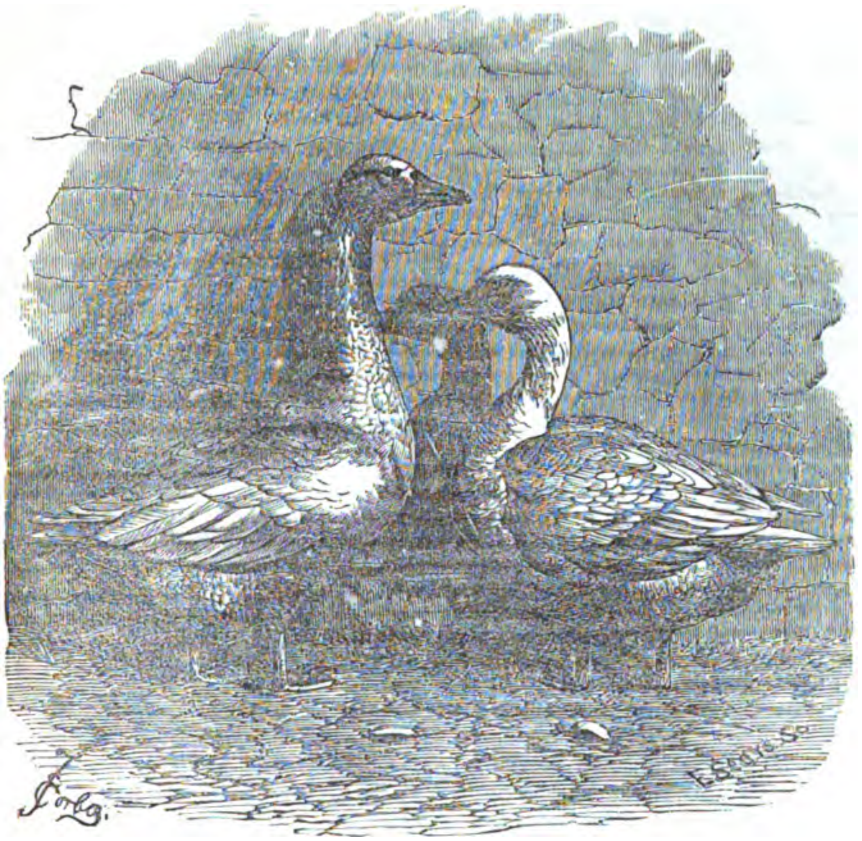
HORSEMEN ON THEIR DIGNITY.

At the Fair of the New England Agricultural Society, last year, there was so much money paid out for "premiums" on fast horses, which were claimed as soon as declared, that the managers were under the disagreeable necessity of informing the exhibitors of stock, implements, &c., that only a portion of the premiums awarded to them could be paid, for want of funds. That this should not occur again, due notice was given this year that in case sufficient money was not received to pay all the premiums, those awarded to the exhibitors of trotting horses, as well as of cattle, sheep, &c., would be paid *pro rata* on the receipts. But this frank and honorable condition was not satisfactory to the horsemen. The Boston "Turf" correspondent of the New Hampshire *Mirror and Farmer* rebukes the managers in the following dignified manner, in a letter in relation to the Portland Fair:—

> *The Races.*—The managers of the Fair did a very foolish thing when they advertised that trotting premiums would be paid *pro rata* upon the receipts, *for turf men object to trotting their horses for the benefit of the exhibitors of sheep and swine,* and consequently several first-class horses who were booked for Portland remained in their stables. Several of the races were quite exciting, however, and the crowds in attendance were well satisfied with the sport.

FRUIT GROWING IN MISSOURI.—We have received a catalogue of the Bushberg Vineyard, Jefferson Co., Mo., I. Bush & Son, proprietors. Some thirty-eight of the sixty pages are devoted to descriptions and illustrations of grapes, with remarks on their cultivation, wine-making, &c. But with all their advantages of climate and soil, horticulturists have their troubles there as we have here. Dr. Hull of that county recently remarked, people have gone into the business freely, not knowing the discouragements they would meet with. They have found so many insect enemies to contend with, that many have become discouraged. But still this catalogue is a pleasing evidence of the rapid improvement of this comparatively new portion of our country.

DOMESTICATING MINKS.—There is an establishment at Cambridge, N. Y., for breeding minks for their fur. It is said that the cost is very slight, and that the income from one mink and her increase will exceed that from a good cow.



EMBDEN OR BREMEN GEESE.

This variety was introduced into this country from Holland, by the late Col. Samuel Jaques, in October, 1821. Mr. Hewitt, an English writer, who favors this variety, says: "The Embden goose has prominent blue eyes, is remarkably strong in the neck, and the feathers, from near the shoulder to the head, are far more curled than is seen in other birds. The plumage is pure white throughout; bill flesh color, and legs orange. One of their great advantages is this,—that all the feathers being perfectly white, their value, where many are kept, is far greater in the market than is ever the case with colored or mixed feathers."—"The quality of the flesh is about equal with the Toulouse; but the Embden is the earliest layer, and frequently rears two broods in one season, the young ones proving as hardy as any with which I am acquainted."

Mr. Bement says, the quiet domestic character of the Bremen geese causes them to lay on flesh rapidly; they never stray from their home, the nearest pond and field satisfying their wants, and much of their time is spent in great repose.

Our cut, which we copy from the *Rural New Yorker*, is from a photograph of a pair exhibited at Birmingham, England, whose weight was fifty-four pounds.

Remedy for Black Knot.—After carefully paring off the excrescence thoroughly, saturate it with spirits of turpentine, with a paint brush, being careful not to touch the tree except in the diseased part.

FALL PLOUGHING.

AMONG farmers there is much diversity of opinion and practice as to fall ploughing. Some object to the practice, but on the whole we think it is becoming more general. There are several reasons why we would recommend it, two or three of which we will mention.

1. The team is in better condition in the autumn. It comes from the pastures or stalls fresh and strong in the clear, cool and invigorating weather, instead of the weakness and lassitude which seems to affect animals as well as men in the spring.

2. The weather is cooler, and both man and beast will be able to perform more labor than in the warm and showery weather of April and May.

3. In the spring it seems necessary to plough, whether the soil is in suitable condition or not. Seed time is rapidly passing, and the routine of work must go on. If one crop is delayed, it is likely to delay another, and confusion and loss is the result. In the autumn no such circumstances exist. It is optional with the farmer when and where to plough, and he can perform the labor leisurely and do it well, and not feel anxious about it. If other work is suggested, the plowing may be left without detriment for a day or two, and the other work performed, and all things go on smoothly and well. All this is the reverse of our circumstances in the spring.

4. Where it is intended to lay land to grass in the spring, the work may be greatly facilitated in the fall by removing the stones, if any are upon it, ploughing, harrowing, and leveling; by filling the dead furrows, mending places that were missed in ploughing, and getting the whole field into a condition fit to receive the best mowing machine among us, when a grass crop is produced. If not washed by rains, the land will be ready for the seed in the spring, and only require a single harrowing and brushing to complete it. Under such circumstances, oats, and other crops that require early seeding, may be got in with half the labor required if these preparations have not been made.

The above operations all refer to the *mechanical* preparation of the soil for a crop. There are other considerations, and among them, that fall ploughing greatly

Assists the Pulverization of the Soil.

The mechanical division of the parts of soil is known by all farmers to be a great improvement to it, but few, however, who admit this, go far enough in this particular. No one believes that a heavy clay soil will produce good crops unless it is thoroughly divided by some mechanical means, though it be well manured. Even a sandy soil may become too compact for the admission of air, rain and heat, if long left untouched, so that there will be no free growth of roots which are started in them.

The first object, then, in the preparation of the soil,—after drainage, where it is needed—is to get a *deep* one. The roots of many plants go deeply into the earth, and often require all the moisture it contains. If the soil be thin, water, in wet weather, will be likely to lie on the subsoil, and thus injure the plants; and in dry weather it may be too suddenly evaporated. When the soil is deep, in wet weather the rain escapes downwards, and the plants sustain no injury; and in dry weather, if the moisture is exhausted at the top, new moisture arises from the bottom and makes up for the deficiency.

The next important point is to make this deep soil a *fine* one; that is, its particles so separated or comminuted that rain water will not flow through it as it would through a collection of pebbles or coarse sand, but be arrested by it at once, and retained there for action on the minerals and other sources of nutrition which are in the earth. In this deep and fine soil another point is gained of the utmost consequence to the prosperity of the plant,—the roots can have a wide and unobstructed range in search of the food which they need.

The *food* of the plants—that is, what they receive from the soil,—is taken up by the fibres of the roots, and the quantity taken up does not depend alone upon the quantity in the soil, but upon the number of fibres present to absorb it. There may be an abundance of plant food in the soil untouched, for the want of fibres to feed upon it. The more the soil is *pulverized*, the more these fibres are increased, the more food is absorbed, and the more vigorous does the plant become. Pulverization, therefore, is not only advantageous previously to planting or sowing, but also during the progress of growth, when cultivation by hoeing is applied in the spaces between the plants.

Pulverization also increases the sponge-like property of soils, so that it takes up whatever moisture comes to it, and holds it, thus rendering their humidity more uniform; and this will be the greatest where the particles of the earth are finely divided,—for gravels and sands hardly retain water at all,—while clays, not opened by pulverization, either do not absorb water, or when, by long action, it is absorbed, they retain too much.

"Water," Loudon says, "is not only necessary as such to the growth of plants, but it is essential to the production of vegetable matters which they contain; and unless the soil, by *pulverization*, is so constituted as to retain the quantity of water requisite to produce these extracts, the addition of manure will be in vain. Manure is useless to vegetation till it becomes soluble in water, and it would remain useless in a state of solution, if the solution so abounded as wholly to exclude air, for the fibres, or mouths, unable to perform their functions, would soon decay and rot off."

Pulverization, in a warm season, is of great advantage in admitting the nightly dews to the roots of plants. The soil, being fine, takes up the moisture as fast as it is deposited upon the surface, and passes it along, from particle to particle, just as a sponge does, down to the hungry fibres that are on the roots. The operation is the same when a rain falls upon the surface. It is in this way that crops in fields which are in a fine condition are watered and sustained, while those where the soil is left in a compact form, perish through lack of moisture.

In Bengal, it is said that the farmers contrive an implement something like our *ladder*, or two or three ladders, side by side. It is hauled over the ploughed surface to level and pulverize it, and this they call *confining the moisture!*

A careful ploughing of lands in the fall, will greatly relieve the spring work, and sensibly increase future corps.

Ladies' Department.

From All the Year Round.

TO A LITTLE HUSWIFE.

O little Huswife clean and spruce,
  Thy use one heart divines;
A rosy apple, full of juice,
  And polish'd—till it shines!
A tidy, tripping, tender thing,
  A foe to lazy litters,
A household angel, tidying
  Till all around thee glitters!

To see thee in thy loveliness,
  So prudish and so chaste;
No speck upon the cotton dress
  Girdled around thy waist;
The ancle peeping white as snow
  Thy tuck'd-up kirtle under;
While shining dishes, row on row,
  Behind thee, stare and wonder!

While round thy door the millions call,
  While the great markets fill,
Though public sorrow strike us all,
  Singing, thou workest still;
Yea, all thy care and all thy lot
  Is ever, sweet and willing,
To keep one little household spot
  As clean as a new shilling!

The crimson kitchen firelight dips
  Thy cheeks until they glow;
The white flour makes thy finger tips
  Like rosebuds dropt in snow,
When all thy little heart
  Flutters in exultation
To compass, in an apple tart,
  Thy noblest aspiration!

O Huswife, may thy modest worth
  Keep ever free from wrong;
Blest be the house and bright the hearth
  Thou blessest all day long!
And nightly, may thy sleep be sound,
  While o'er thee, softly, stilly,
The curtains close, likes leaves around
  The hushed heart of the lily!

DOMESTIC ECONOMY;

OR,

HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

FRUITS AND VEGETABLES—CARE AND COOKING.

CHAPTER XVIII.

Ripe fruit and the esculent roots and seeds, when fully matured, undoubtedly furnish the best sustenance for the human frame. During the summer and autumn the generous earth lays an abundance of these rich gifts at our feet, and while enjoying them then, we are desirous to extend their advantages through the barren winter and spring. But the great law of change, which is written all over the material world, governs strictly "the green things growing." Year after year, "first the blade, then the ear, after that the full corn in the ear," rounds the whole circle of vegetable life, and when the plant has perfected its seed, or attained the fulness of its strength and beauty, decay sets its seal upon it, and it is soon dust and ashes.

Various methods have been devised, and have proved more or less successful, for arresting the processes of Nature; thus prolonging this time of perfection, and retarding decay or preventing it entirely. Hence the preparation and arrangement of vegetable food for consumption during the cold weather is one of the most important of housekeeping duties, and keeps the house-wife busy through much of the autumn. Baking, drying, canning, stewing, salting, pickling, preserving, all have this end in view;—not always, it must be confessed, with proper deference to the laws of health or to the digestive powers.

Good ripe fruit in its raw, or natural, state is not only more agreeable to the palate, but decidedly more beneficial as food, than when through subjection to heat—the prevailing power in cookery—and the admixture of flavors alien to its nature, it has lost its specific qualities.

Fruit should not be gathered when moist with rain or dew, especially if it is to be immediately packed, or to be kept away from the free air; for the dampness thus retained generates heat, and fermentation then rapidly ensues. Neither should it be plucked when hot with the mid-day sunbeams, unless it is to be consumed very soon; for in that condition its pulp is all ready for decomposition. Care should be taken that the cuticle is not torn nor the pulp bruised. It must be kept in a cool, dry atmosphere—as cool as it can be without danger of freezing. Darkness, also, is requisite for berries and the more delicate varieties of pears and peaches. If closely sealed in air-tight jars while it is sound, and then placed away from heat, light, and moisture, it may be kept unchanged many months—till another year's crop is ready for use. But whenever unsealed it must be immediately eaten, or cooked, as confinement renders it more susceptible than ever to the influences of the air and light. Broad-mouthed bottles answer very well for canning fruit. Tin cans can be used for anything uncooked that has a firm skin, but they impart a metallic taste to all juices;—stone or glass jars are much to be preferred for fruit; and, indeed, for vegetables, as they can be so much more easily sealed by a woman.

Select sound ripe fruit—not mellow—which is a sign of over-ripeness. Pour boiling water over tomatoes and peaches in a dish. Let them stand till their skin can be wiped off from the pulp with a cloth. Pare and quarter pears and quinces and remove their core. Very solid peaches need paring instead of scalding to remove the skin. Berries, cherries, and plums take in their natural condition. Wipe the stems of pie plant and cut them into inch pieces.

All fruit that is pared with iron or steel instruments as fast as it is done should be dropped into cold water and kept there till it is canned, or cooked, or prepared for drying, as the union of its acids with the metal is apt to discolor it, and exposure of the pulp to the air turns it dark. Fill jars or bottles with this fruit, each kind by itself, —mixed fruit never keeps well. Pour in cold water till it is covered. Have good whole corks that will fit the necks of the vessels very tightly. Let the corks lie in hot water a little while before using; this will make them elastic and less liable to break. Drive them in carefully with a hammer or mallet. Cut them off even with the neck of the jar with a sharp knife, and, if you please, tie over each cork a piece of bladder skin, (wet it to make it pliable.) But there is no need of this if the sealing is good.

Set a number of these jars or bottles in a wash boiler or a large deep pan over a moderate fire, placing under and around them hay, straw, or something of the sort, to keep them from breaking. Fill in cold water to half the height of the jars. Let them heat slowly. Meantime melt together equal quantities of beeswax and rosin, in a small vessel,—three ounces of each is sufficient for a dozen jars. When the water begins to boil take the jars from the boiler; but before you do this be sure that all the doors and windows of the room are shut, and keep them so till the jars or bottles are sealed and cooled, because a draught of cold air will break them. Cover them with a cloth till they are cool enough to handle. Then with a brush or a small swab, besmear the end of the cork, or dip the neck of the bottle or jar directly into the melted mixture. Make this seal smooth, and be sure that there is no crack in it or around it, (by which air would enter); if you have any doubt about it dip again. When the jars are cold pack them in boxes with sawdust or dry sand (dried by heating in the stove oven) and keep them in a dark, cold, dry cellar or closet. A coating of mould frequently forms in the top of the jar, but it does no injury if care is taken that it is not torn when the cork is removed and so mixed with the contents of the jar. There are many patent fruit preserving jars for sale at the stores, but this simple way with common jars and bottles is always satisfactory, where several of those have failed.

Fruit put up in this way retains its freshness of flavor and its firmness of pulp; is very nice to be eaten at table with bread and butter or plain puddings—adding sugar or not, according to taste; may be used in paste or batter puddings, or for pies or sauce, just like freshly gathered fruit.

Some persons arrange the fruit with alternate layers of pulverized white sugar instead of filling the jar with cold water, but it is more liable to ferment.

Grapes packed in boxes, a layer of cotton batting at the bottom and then alternate layers of grapes and batting till the box is full,—batting at the top,—tightly covered, and then placed where they can be dry and cool all winter, will be found nice in the spring.

Delicate fall apples and pears that are to be used during the winter should be carefully wiped, wrapped in soft paper separately, and then laid in covered boxes away from the light. They should be examined occasionally and if any begin to mellow used immediately. The more hardy kinds of pears and apples, as soon as possible after gathering, should be spread on tables and on the floor of airy rooms till they are free from dampness, and then laid (after all bruised and defective ones have been removed) into clean dry barrels and boxes. When there is no convenience for spreading them they may be picked directly from the tree to the barrel, and this be allowed to remain open in the sunshine several days. Then these, as well as those that have been spread to dry, should be closely covered with a tightly fitting head or cover and set in a cool, dry place. Once a month they should be looked over, all that show signs of decay removed; the others wiped with a dry cloth and then closed again from light and dampness.

For the sake of variety, or as convenience, if fruit is decaying rapidly it is well to dry it. Spread berries, cherries, and plums, on earthen dishes or cloths, thinly, in the sunshine, where there is free passage of air. Stir them and turn them over every day. Guard them from moisture, and when they are shrivelled (this will be in three or four days) fill them into paper bags, and paste the seams of these bags so tightly that no insects can enter. Apples and peaches should be pared and quartered—the apples cored, the peach stones cut out,—they will dry more nicely and quickly if sliced. String them on a slender twine or a stout thread by means of a needle, and then hang them in a current of air; or spread in a similar manner to berries. [The writer has lately seen in one of our public prints an account of drying fruit and vegetables very quickly and nicely by placing them beneath the glass of a hot-bed,—the sash being raised above the frame on which the fruit is spread, two inches at each end, for the admission of air. The method is worthy of trial.]

None but sound fruit, firm in flesh, and of a bright flavor, is fit to be dried. After drying, keep it from dampness and heat till needed for cooking. Very nice drinks for the sick may be made from dried fruit. It should be washed, and then boiling water be poured upon it, which when cool may be sweetened with a little nice sugar. Dried fruit requires washing, soaking in lukewarm water—a little more than will cover them—for a few hours, and then stewing, before it is swollen and tender enough to eat. If it is very sour use clear water for stewing it; if not, part of that in which it was soaked. When it is nearly tender enough add what sweetening it requires—sugar is best. Do not stir it much, keep the fruit as whole as possible. Use it as a sauce or for making pies. If for puddings it needs only soaking.

Dried apples and peaches make the best jelly. For this soak them, allowing two quarts of lukewarm water to one of fruit. Then boil the fruit in this water—placing with it a small bag of ground ginger or cinnamon for flavoring—till it is very soft. Have ready a flannel bag. Put the fruit into this bag and hang it up to drain. When it has drained nearly dry squeeze the bag gently, in order to get all the liquor, and mix with a pint of this a pound (three cupfuls) of sugar. Pour this into the stew-pan (nothing but porcelain-lined ware should be used for fruit) and let it boil slowly ten minutes, then turn it into jars or jelly glasses and set them aside to cool. When cold cover with thick white paper pasted securely over the edges of the jars and glasses, and keep them where they will not mould. Fruit may be nicely dried in a cool oven, but it will have a different flavor from that exposed to the sun and air, and will not keep a great while.

Pears, peaches, and apples are very nice baked in a hot oven three or four hours. Pare and core them; then place them in a deep earthen pan with half their weight in sugar dissolved in water—one cup to a quart of fruit,—or with the same quantity of molasses, and cover the pan with a thick crust of brown bread dough—which may afterward be used for making coffee. Apples and pears are, however, very desirable as dessert baked in their skins in flat pans with water enough to prevent them from adhering. And both pears and sweet apples are a great addition to the corned beef dinner;—boil them with the vegetables that accompany it. They are also quite appetizing boiled in fresh water and served plainly with roast fowls or pork; or, cut in thin slices and fried with the least particle of fresh lard to accompany veal or mutton chops.

Everybody knows that a baked spare-rib, or roast goose or turkey is not complete without sour apple or cranberry sauce; but they are much more desirable with a boiled leg of lamb. Stew the fruit in one-quarter its measure of water. When nearly done stir in just sugar enough to relieve its keenest acidity. Let it boil a moment longer and then rub it through a hair sieve. Serve it cold. A good substitute for this is the "country" apple sauce, made in large quantities by the Shakers, who supply the grocers; but it is a good plan when apples are plenty to make your winter's stock yourself. It is very convenient for filling to either baked or fried pies, or to eat with bread and butter, as well as with meats. To make it, use both sweet and sour apples. Boil first one gallon of new cider till only one quart remains. Set a large kettle (in which a dish or plate is laid, to prevent the sauce from burning at the bottom) over a slow fire. Pare, quarter, and core your apples;—you will need two gallons of cut apple for a quart of boiled cider. Put these with the cider into the kettle and let it boil two hours; then pour in a quart of molasses, stir the sauce thoroughly, and boil it steadily six hours more. A coal fire covered with ashes will cook this well. If the fire will keep all night let the kettle remain, stewing moderately, till morning; it will then be of a bright red color. Take it into stone or glass jars, or an oaken firkin. Never put it into glazed earthen ware;—there is arsenic in the glazing, which the acid sets free. The apple is such a healthful fruit it ought to be on our tables in some form at every meal.

Next to this comes the tomato. The skin of this should always be removed by scalding and rubbing or peeling; then with salt alone, or salt, pepper and vinegar it is very relishing to the homeliest fare. Sliced, with sugar, it is delicious; and with good milk or cream added elegant enough to set before a king. Skinned, flavored with a trifle of salt and pepper, and the least dole of butter, and boiled half an hour, it is the very best sauce for any meat dinner, and just the thing to be placed piping hot on a hungry man's supper table.

All these methods for keeping and preparing fruit for food can be recommended, they are all economical and healthful. But many persons are not satisfied with them. Pickles and preserves, they crave, and will have, in spite of disordered stomachs, diseased livers, and cadaverous faces. So a few general directions are here given for these.

Pickles—the very name is an abomination—to be considered nice must be made, and kept, hard and crisp. Also, they must be of good color—green being the favorite hue; and to obtain this they must be made in a brass kettle, though a porcelain-lined iron one is better in every respect, except for imparting a green color. Alum must be dissolved in the vinegar to harden them, and the hottest of spices, in plenty, to flavor them. And, furthermore, everything to be pickled must be unripe,—as crude as possible; and the whole vegetable kingdon seems to have been ransacked to get substances of the most indigestible nature as materials for pickles. When some individuals will consume a barrel of these in a year, is it strange that we have so many "sour old maids" in Yankeedom?

The cold, watery cucumber has always been a favorite among pickles. Get those of the size of your forefinger, directly from the vines if possible. Take a hundred of them, wipe them clean and pack them in coarse Liverpool or rock salt, in an oaken tub or firkin, and spread a cabbage leaf (green, of course,) over the top. At the end of one week take them from the salt and put them in a stone jar or broad-mouthed bottle, together with whole cloves, peppercorns, and allspice—an ounce of each to a hundred pickles. Use only cider vinegar. In each gallon dissolve two ounces of powdered alum, and pour this cold over the pickles, filling the jar or bottle, which must be kept tightly covered. Some persons heat the vinegar and pour it boiling hot upon the cucumbers, but there is no necessity for it. It is well to keep most of the pickles in salt (the juice which exudes from them making sufficient brine to keep from drying,) and to freshen them a gallon at a time; they may be kept unchanged two or three years in the salt. Those that you wish to freshen place in a deep crockery dish, and pour over cold water enough to cover them. Let this stand one day and one night; then turn it off and pour more cold water upon them, and so continue, renewing the water each day, till they are none too salt; four or five days will accomplish this.

Small onions, skinned, hard-boiled eggs divested of their shells, and sweet apples, pared and cored, need only the spice and vinegar; they will be pickled in a week. Peppers, radish-pods, barberries, cranberries, and nasturtium seeds need no spice; only cover them with the vinegar. A week will pickle these also.

Tomatoes are best pickled in small slices in the following manner: A gallon of small tomatoes cut in slices one-eighth of an inch in thickness, and two quarts of small onions sliced the same. Put them in a deep dish, in layers, sprinkling each layer plentifully with fine salt. Let them stand over night. In the morning turn off the brine which the juice of the tomatoes and onions has made, and mix among the slices an ounce each of whole cloves, allspice, pepper, and white mustard seed; and a coffee-cupful of horse radish root cut into thin slices the size of dice. Then put this all into bottles and fill up with cold vinegar. Cork the bottles tightly. This pickle will be ready for the table in one week, and the older it is the better it will be. It will keep years in a cold, dark cellar.

Small melons after their seeds are removed make hard and crisp pickles. Cut them in halves, lengthwise, and scrape out the seeds with a wooden spoon. Then salt them like cucumbers. After that sew them with a needle and coarse thread together—into their natural form,—leaving a small aperture at one end, by which they must be filled with sliced onion flavored by thrusting in with it a few cloves, peppercorns and mustard seed. Then sew up this aperture also. Cover these melons with vinegar—they will need it applied scalding hot—in stone jars.

Cabbages—the purple are considered most suitable—should be cut in quarter inch slices, after the outer thin leaves are taken off and the whole head carefully searched for insects, and placed in crockery dishes with fine salt sprinkled over them for one night. In the morning take them from the dishes and pack them in a large stone jar, and pour over them scalding vinegar enough to cover them, in which has been placed cloves, allspice, and peppercorns—an ounce each to a gallon of vinegar. Both these and the melons must be left with the jars uncovered till the vinegar is cool; then they should be closed and the jars set in a cool place.

If a white cap, or a thin coating, or specks of mould appear on pickles, or in the vinegar, it is because the vinegar is not strong enough, and it must be turned off and better procured. If pickles grow soft stir into the vinegar a little powdered alum.

A sweet pickle may be made of quinces, peaches, or beets. Beets need only to be boiled as for dinner, peeled and sliced and covered with cold vinegar in a jar. They are ready for the table in two days. Quinces must be pared, quartered, and cored. Take half a peck. Boil five pounds of sugar in two quarts of vinegar five minutes, and skim it well. Then add one ounce of stick cinnamon and half an ounce of cloves and the quince. Boil the whole till the quince is soft; then place it in jars, cover them, and keep in a cool closet. Remove the stones from the peaches. Scald four cupfuls of sugar in two quarts of vinegar, and skim it. Stick three or four cloves into the peaches and lay them in a jar. Pour the hot vinegar and sugar over them, and cover and keep them as you do the quinces. At the end of a week drain off the vinegar, heat it, and skim it again, and again pour it over the peaches. They will then keep through the winter.

If fruit cannot be kept in a palatable condition without cooking it is very well to stew it plainly, in just water enough to extract its juices easily; and, as this operation always increases its acidity, there is no objection to the addition of a small quantity of sugar scalded with it. *Preserved* in this way it may be eaten in moderate quantities without harm. But the preserve *par eminence*, the concentrated sweetmeats, which are the crowning glory of all the cook's efforts at keeping and cooking fruit, are so expensive and so unhealthy that all prudent women ought to set their faces against them. But many housewives will fight valiantly for them, and forego many other harmless indulgences for the sake of concocting their favorite jellies and jams. So, lest more time and strength and money should be squandered in making them than is absolutely necessary, I give a few of the best rules for their manufacture, before passing on to speak more particularly of the care of vegetables.

Use none but good, sound fruit, and nice, white sugar—the granulated. For preserves proper—those in which the fruit is kept distinct from the syrup—a pound of sugar is needed for each pound of fruit. For jellies, a pound of sugar for each pint of syrup. For jam and marmalade the proportion varies—according to the consistence of the pulp—from half to three-quarters, or even a whole pound of sugar to one of fruit.

Make preserves in a porcelain-lined kettle,—be sure that it is perfectly clean. Pare, quarter, and core apples and quinces. Do the same for large pears; but only pare small ones, leaving the stem on. Pare melon rinds. Skim tomatoes and peaches by scalding and then rubbing or peeling. Remove the whole of orange and lemon rinds, cut them in slices and take out the seeds. Prick plums with a fine needle to prevent the skin from bursting; and grapes, cranberries, and crab-apples also, if desired to retain their whole form. Berries and cherries need only washing and careful searching for insects.

Observe directions in regard to pared fruit given in the early part of this chapter, then, when your materials are ready, weigh the fruit and place it in the kettle with enough cold water to reach the topmost pieces. Keep a slow, steady fire. Let the kettle boil gently—scarcely above a simmer—till you can penetrate the fruit with a straw. Meantime have the proportion of sugar weighed, and then skim out the fruit and drain it in a hair sieve. Wash the kettle and return the syrup, to which add the sugar and whatever materials you wish to use for flavoring. Let it boil gently till the syrup is clear,—skim off all impurities that rise to the surface. Then drop in the fruit, using great care lest it break. Boil it slowly fifteen minutes; then remove the kettle, skim the fruit into jars that have been gradually heated, pour in the syrup. When cool, put on the lid, or cork tightly, and keep them in a cool, dry closet.

Use only stone, or glass jars. Glass is preferable, because if mould forms, or fermentation threatens, it can be easily seen. A thick coat of mould at the top will do no harm, but if small specks, or bubbles, are seen among the fruit, the specks must be taken out, both fruit and syrup scalded and the jar washed clean before they are returned. It is well to look at preserves as often as once a month to see if they need scalding. Pears alone, or mingled with peaches and apples, are considered nice; or with quinces. Peaches and apples do well together. Quinces and sweet apples mix very well; so do barberries and sweet apples. None of these need flavoring; neither do cranberries, gooseberries, strawberries, blackberries, grapes, or raspberries. Blueberries need stick cinnamon boiled in the syrup. Crab apples need ginger. Plums require no flavoring, neither do cherries. Tomatoes are improved with sliced lemon or orange scalded with them.

To make jam, boil the fruit,—which, if large, should be cut as small as berries—in as little water as possible, till it can be mashed with a spoon. Then put with it the sugar and boil it half an hour, stirring it frequently. This applies more particularly to apples, pears, quinces, and peaches,—which may be mingled, as for whole preserves. Tomatoes made into jam must be skinned, the seeds taken out, and then boiled with a pound of sugar for every pound of pulp and two sliced lemons used for flavoring. Three-quarters of an hour will cook it. Strawberries require but half their weight in sugar for jam. Boil the berries half an hour, stir them almost constantly; at the end of that time stir in the sugar and boil it another half hour. Raspberries and blackberries for jam must have their weight of sugar. The fruit must be bruised, and then boiled till the juice is nearly gone. Add the sugar then, and boil slowly twenty minutes. Grapes for jam must be boiled, strained through a hair sieve, mixed with sugar—pound for pound—boiled and stirred twenty minutes. Marmalade only differs from jam in being of greater solidity, attained by using more gelatinous fruit than for jam, and more sugar, with longer time and more moderate boiling.

To make fruit jellies, only the juice, or the water in which the fruit is boiled, is needed with the sugar. Currant and blackberry jelly may be made by wringing the berries in a cloth and mixing an equal weight of sugar with it, which should be finely pulverized. Stir it till the sugar is all dissolved. Pour it into glasses, and set the glasses in a sunny window for two or three days. Then cover them with white paper pasted over the brim of the glasses. Cranberries for jelly must be boiled in as little water as possible till soft; then three-quarters their weight of sugar stirred in, and the whole boiled five or ten minutes longer, when it will be found ready to put into glasses. To know when jelly is boiled enough drop a spoonful into cold water. If it sinks immediately it is done; if not, it must be boiled longer. Crab-apples boiled till soft with a bag of ginger make nice jelly. Quinces and plums must also be boiled till tender. Grapes and barberries do not need boiling to express their juice. Rhubarb should be scalded a few minutes only. All of these fruits should be put (those that are boiled accompanied by their syrup) into a flannel bag (wet this before using it) and squeezed gently till all the juice is obtained. Then to a pint of this juice add a pound of sugar, and boil it till it will sink in water. Pour it into glass jars; when cool paste clean papers over the brims and set them in a dark, cool place. It should have been mentioned in the first part of this chapter that uncooked cranberries can be kept any length of time in cold water, in covered jars, if the vessel is placed where they will be cold—just cold enough to escape freezing.

For the New England Farmer.

Scotland Cake.

Two cups sugar; scant cup of butter beaten to a froth. Three eggs well beaten; three cups flour; one cup milk; one teaspoonful saleratus dissolved in the milk; two teaspoonfuls cream of tartar rubbed in the flour. Flavor with lemon or vanilla.

Indian Pudding.

Boil one quart of milk, and pour to nine great spoonfuls of Indian meal. Add a large cup of molasses, and a small teaspoonful of salt. When the lumps are all mashed, add one quart of cold milk. Bake three or four hours at least in a moderate oven. To be eaten with butter or salted cream.

Corn Cakes, or Mock Oyster.

Cut from the cob twelve good sized ears of full sweet corn. Add one half pint of sweet milk, and two eggs. Beat well together. Salt to taste. Add sufficient flour to make a thin batter. Fry in pork fat.

Chow-chow.

Two quarts of green tomatoes. Two quarts of white onions, one dozen green peppers, one dozen green cucumbers, one large head of cabbage, chop fine. Season with mustard and celery seed, to suit the taste. Cover with the best cider vinegar. Boil two hours slowly, continually stirring. As soon as you take it from the stove, add two table spoonfuls of salad oil. Cover tight and keep in a cool place.

I think that after one faithful trial of the above receipts, the lady readers of the FARMER will feel that they have some valuable acquisitions to their store of receipts. M. P. B.

Somerset, Aug. 6th, 1869.

THE NEW ENGLAND FARMER

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MONTHLY.

SIMON BROWN,
S. FLETCHER, } EDITORS.

DECEMBER.

"With more than Summer's beauty fair,
'The trees in Winter's garb are shown;
What a rich halo melts in air
Around their crystal branches thrown!

O God of Nature! with what might
Of beauty showered on all below,
Thy guiding power would lead aright
Earth's wanderer all thy love to know."
—*Andrews Norton.*

DECEMBER; the best of the circle of The Months, and the fruition, the crowning glory of the year! And what a jolly month it is. New England thrift and foresight are apparent all about the premises of the farmer; in the cellar,—sometimes in the garret,—in the kitchen, the corn-house, wood-house and hay-mows. The cattle are gathered in, and are fairly established in their winter quarters. A little habit has taught each one to know his particular crib, so that all come to their places as quietly and regularly as a squad of well-drilled soldiers wheel into line at the word of command. They soon become familiar with their master, recognize his voice, even his *step*, and greet him with earnest *longings*, when the stated hours for feeding arrive. The ox knoweth his owner, and the *cow her* master's crib. The horses neigh and paw the floor, impatient as a child, for the forthcoming food. They have quickened appetites in the keen air, and eat without fear of indigestion and night-mare.

The *sheep* are less orderly, and impatient of restraint, of any kind. They need, therefore, ample room, light and warmth, in which to exercise. In feeding, they are continually changing position, leaving a favorable spot for one not half so good, rushing headlong between two others, or knocking over a weaker one, to get at the fodder which it had just left. This habit indicates that a flock needs three or four times as many lateral feet of space, in feeding, as there are animals in it, in order that they should be quiet, and eat without molesting each other.

Now, bright fires are burning *upon the hearth*, in some favored rooms; the tea kettle sings on the cooking stove in the kitchen; the house cat lies purring in the warm sun, or, if evening has set in, stretches herself in the corner of the sitting-room fireplace, or is coiled up, badger-like, behind the cooking stove in the kitchen! Why does she start so suddenly as though springing at something? Ah! nature is nature, and will have her way, asleep or awake! The cat has entombed some poor rat or mouse during the day, probably, and is now dreaming of her exploits in catching it, as Goldsmith's Old Soldier,

"Shouldered his crutch and told how fields were won."

Let her sleep. She and the children are on excellent terms, and give place to each other, as regards the cozy niches about the fire.

How delightful the evening temperature, as the family gathers around the lamp, and newspapers and books are opened, the news of the day discussed, and the experiments of Farmer Goit are approved or condemned. This is the gate of knowledge, the foundation and corner stone of improvement and progress. Let us illustrate:

An acquaintance with the principles of *Geology*—even a superficial information of the science, would do several things for the farmer.

1. It would confirm in his mind the truthfulness and wonderful wisdom of the Mosaic account of the formation of this world, and the no less wonderful things which it contains.

2. Because geology investigates the nature, composition, origin, structure, and arrangement of the materials of which the earth is composed.

3. Because the soil we cultivate was once rock, of many kinds, some of them exceedingly valuable to the farmer, while others are of little use as producers of crops.

4. Geology explains what are essential in our soils, so that the farmer understanding this may neglect those lands lacking in fertilizing agent, and improve those which are supplied with them.

For instance: fir and pine trees find a sufficient quantity of alkalies in granite and barren soils in which *oaks will not grow;* and wheat thrive in soils where lime abounds, but not where it is lacking.

All kinds of grasses contain in the outer part of their leaves and stalks, a considerable portion of sand and potash,—in some form,—which gives them strength to stand erect. But in moist meadows this quality is lacking to a considerable degree. Knowing these facts, the farmer would not plant oaks on sandy barrens, nor look for profitable crops of timothy or red top grass on his low meadows.

These simple illustrations are sufficient. Great is the privilege which these *December* evenings afford. Let them be improved until all minds are inspired by the wisdom which may be gained. Turn the attention for a single winter, three times each week to some special topic of instruction, and that mind will soon find itself in a new world of ideas, that will impart substantial comfort and gratification.

December is full of appropriate lessons. It will yield instruction which will prove profitable in preparing the soil and planting in the spring; in the culture of crops in the summer; in the early harvest of hay and grains, and the later ones which close up the labours of the field.

In this inclement season let your charity abound. The poor ye have always with you. So says Holy Writ. Let your sympathies, and *your acts*, go forth into the homely dwellings of the poor, and minister to them as your means will justify.

"Remember the poor, for bleak winds are blowing,
  And brightly the frost-pearls are glistening around;
The streamlets have ceased all their musical flowing,
  And snow drifts lie scattered all over the ground,
Remember the poor in their comfortless dwellings,
  Ill-clad and ill-fed and o'er-burdened with care;
Oh, turn not away with a look so repelling—
  Thy kindness may save them perhaps from despair."
—*Anonymous.*

THE CLOSE OF THE YEAR.

Every reflecting person will be likely to make this season a halting place in the pathway of life, from which to look back upon the past.

He will summon before him, in the first place, the blessings which attend us in our highly-favored land,—a land, literally flowing with milk and honey, and all food for man and beast; a fine climate, beautiful changes in the seasons, and a land exempt from the terrible convulsions in nature which overthrow kingdoms and decimate the people, in other regions of the world.

He will then call before him his own life for the past twelve months, and bring it to the test of the teachings of the Great Master; will inquire what examples need correcting; what trains of thought require to be changed into purer and more peaceful currents; and what harsh, or unkind language should give place to gentleness of speech, and tones of sympathy and love.

Such a review would be profitable to all. It would tend to establish in the heart the principles of justice, mercy, charity, peace, and set the gates of heaven ajar, so as to give us glimpses of the "mansions" which we are told by the Savior are "in his Father's house," and which he has gone to "prepare for us."

Then, as we are created to progress in knowledge, as well as in purity, the mind may be turned to secular affairs, and get a deeper insight into the things which pertain to our special vocations, so that we may acquire more power over nature around us. This would not only tend to higher enjoyment, but to an increase of profit in our business, and with that the means of a more extended usefulness to our fellow-beings.

The Months have again rolled round, completing their circle, covering the earth with sustenance and beauty, or coming in grandeur or sublimity, even, and showing the love and power of Him who rules them all.

We are in the enjoyment of civil and religious liberty,—a boon not capable of being expressed by any language that we can command,—of a wonderfully extended and fertile country. The arts and sciences have progressed so as to alleviate an immense amount of human toil that our ancestors were subjected to, and all are left free to choose their own occupation and modes of life, and carve out their fortune, scarcely knowing that a law exists, only in its infraction. There never was a more highly favored people. Let us see that our heritage is kept pure for those who are to succeed us.

For the New England Farmer.

THE POTATO.

It is now more than two centuries since the potato was domesticated and its value somewhat appreciated. Notwithstanding this long lapse of time since it was taken from its wild state in South America and literally *transformed* in its habits and character, it gave no decided indication of suffering from the transformation until the present century, nor even then until within the past thirty or thirty-five years.

True indeed, is it, that it was subject to ills in common with all other cultivated crops, by reason of unpropitious seasons, or injudicious culture. In the early part of this century, the farmers of England, and to some extent those of Ireland, were troubled with what was there termed the *curl*. Various reasons were given for the appearance of this disease by those who at that time wrote on the subject, but nothing decisive was ever arrived at as the true cause of the trouble. The most satisfactory reasons were the constant planting from the same variety and on the same land, so that potatoes degenerated and at length yielded indifferent crops, and over-manuring with green dung.

I incline to the opinion that in these reasons, then given for the disease called *curl*, we have the secret of the cause of our present potato disease. Our whole process of culture is artificial, and Nature seems to resent the injury inflicted upon her. If we would rid ourselves of what is popularly termed the potato rot,—we must go back to first principles; get the *wild seed* and begin where the first cultivators began, and we may be quite sure that for many years we shall be safe from the ravages of disease. It will be of little use to sow the seed grown from our present diseased stocks. The constitution is bad, and the progeny will surely inherit the evil.

I have tried this, and speak from personal experience. About 1842, I put 140 bushels of sound potatoes into the cellar that were only three years removed from the seed-ball. The whole of them rotted in less than three months.

As at present situated, we must try to conform our practice to the well ascertained conditions of the patient. The potato, just now, is our "sick man" in the vegetable kingdom.

The soil, the quantity put in for seed, the food we give them, and the nursing requisite to insure their well-being, are the important conditions of successful treatment. I believe it is now conceded that heavy wet lands should be avoided, and choice made of good, strong mellow soils that will make a crop of fair yield without manure. I am aware that I lay myself liable to be assailed for this condemnation of manure in cultivating the potato, but I am certain that abundance of facts serve to prove that it has been one of the greatest causes of the disease, by stimulating to an unhealthy degree. I have used various kinds of manure, and none at all, in experiments to test this point, and am satisfied that immunity from the rot is to be found, if at all, in the absence of fertilizers.

I have known large fields of potatoes in one night to turn black and emit in the morning a most disgusting stench,—while in an adjoining lot, planted with the same seed, the crop matured and was marketed sound. On inquiring into the reasons for the condition of these crops, I found that green stable and slaughter-house manure was used on the lot that rotted, and that the healthy field received no manure of any kind. It was pastured in previous years and was in good condition for making a crop.

As to the amount of seed we should use, I think there need be no serious question with those who are familiar with the published reports during the past few months of the results obtained in using *very little* seed in the experiments with the Early Rose and other new varieties. The yield obtained is far beyond the usual average, and in every instance that has come under my notice, but one eye has been used in a hill. If these results are so, what is to be gained by putting in whole or even half potatoes as many do? In 1855 or

1856 I experimented with seed by using large, medium-sized, halves, and pieces with one and two eyes in a hill. These were planted in rows, side by side, in the order in which I have here written them, in a field of four acres. They were weighed and minutes were kept of the result. I have lost the memorandum, but the results are familiar to me and not likely to be forgotten. The uncut potatoes rotted very badly. The large ones produced more than one half rotten ones, while the small cut pieces were exempt from the rot almost entirely,—probably not one bushel on the whole four acres aside from the few rows where I used the large seed in the experiment.

From this result I derived additional evidence of what I had for years regarded as true, that we should use as little seed as possible and secure the germ,—compeling the plant to seek for nourishment *outside* of the parent potato, which contains the fatal poison that has been accumulating in all the years of its unnatural culture. I am not sure but we might after years of culture in this way throw off the disease and restore the plant to health again. I cannot see any practical use in using seed in such large quantities as many do.

I have referred to the results obtained with the Early Rose. I fear that in most, if not all, these reported cases of large returns, they have been purchased at the expense of the health of the potato by over-stimulating with manure. Time will tell how that is. It would be well if some of our farmers of means would year after year institute experiments that would set at rest these ever-recurring questions, about which their seems to be so many conflicting theories. K. O.

Oct. 25*th*, 1869.

MY EXPERIENCE IN PORK RAISING.

The result of my own experience for several years past has convinced me that the prevailing error in pork raising is in overfeeding. The *hoggish* appetite of the swine "growing with its growth and strengthening with its strength," has met with too ready an acquiescence on the part of his keeper, and has not rewarded at the meat tub the extravagant outlay which has been deemed necessary to satisfy it. Beyond a certain point in feeding swine, no beneficial results are attained; on the contrary, the undue development of the stomach of the animal by producing an unnatural craving for the amount of food adapted to the capacity of the stomach, rather than to the requirements of growth and development, produces waste and consequent loss of profit This, briefly stated, is my theory, based upon facts.

Several years since, I began to practice more care in the raising of swine, weighing and measuring all the corn, meal and other feed used in raising a definite number, and noting the exact amount necessary for the largest production of pork. The want of care and attention to this matter will almost invariably, as I presume the most of you readers will admit, carry the expense of raising pork nearly if not quite up to the value of the production.

Year before last, corn was high and pork cheap. In a conversation with some of my neighbors on the question of the profit or loss of making pork during that season, one stating that his pork would cost him fifteen cents per ponud, and another that he could not raise it for less than twenty-five cents, I ventured to make the assertion that with corn at $1.50 per bushel, and pork but ten cents per pound, I would suffer no loss. This was in December. I procured corn and meal at the above named price, and having three swine to fatten, I ascertained their weight at that time, and at the time of killing, which was in the latter part of February following. An exact estimate of the increase in weight showed that I had succeeded within one-half pound of pork of accomplishing the financial feat promised to my doubting neighbors.

My process of feeding is as follows: —I take a spring pig and commence by giving him from a gill to half a pint of raw meal, mixed with a sufficient quantity of milk to wet thoroughly, to which I add about a half a pint of milk three times a day, with a few potatoes boiled. I feed a few potatoes until the pig is about four months old; my object in giving the potatoes being not so much for food as to produce a sufficient development of the stomach. After that, until six months old, I give three pints of raw meal with about four quarts of milk a day, occasionally giving a few potatoes. After that until fattening time, I feed two quarts of meal with four quarts of milk or water per day. During fattening time I feed the swine one quart of meal with one quart of drink three times a day. If water is accessible to the animal at any and all times, it will be found that he will not drink a pint a day in addition to the above named quantity given with the food.

For the past four or five years I have raised and fatted from three to five hogs per year on the above quantity, averaging fifteen pounds of pork to a bushel of corn. It will be seen that I discard swill and house slops as worse than useless, having demonstrated from actual experience that these *sloppy* messes, so conveniently disposed of and so lavishly fed out to the swine, render a larger quantity of more substantial food necessary in fattening time, in order to satisfy the cravings of appetite, without a corresponding increase of pork produced.

My experience has demonstrated, to my own satisfaction at least, that meal fed in a raw state is better than when cooked. I now have a hog one year old the 21st of last June, raised on the above named quantity of food, which now, Sept. 21st, girths five feet, and measures five feet ten inches in length, estimated to weigh 450 pounds dressed pork. I commenced feeding this swine for fattening, the three quarts of meal per day, on the 5th day of Sept.—*Winslow Arey, Hampden, in Maine Farmer.*

THE HIGH PRICE OF MEAT.

The *Courrier de la Boucherie* of Paris contains an article upon the rising prices of butcher's meat all over Europe, which have attracted serious notice in France. All the French markets have been gradually rising for the past six years; so much so that the advance constitutes a considerable surchage upon the consumption of the country. Choice parts are double the price they were, and inferior joints are fully one-third higher. It was thought that the opening of the new markets at La Villette, Poissy, and Sciana, two years ago, would lower prices in Paris; but the result has been quite the opposite, and the advanceed prices of Paris have been met by corresponding movements at the provincial markets—for instance, at Aix, Bordeaux, Caen, Chartres, Dijon, Lisieux, Nismes, Rouen, Toulon, and Lyons.

It is the same in England, notwithstanding great supplies of cattle from Holland and Belgium and Germany. In Holland and Germany fat cattle have not been so dear for two years as they are now. In Germany beef and mutton have not advanced so much as in France and England, because the consumption of pork is greater; but in Prussia there has been a distinct advance in all descriptions of meat, and in Italy the rise is still making progress.

This review, adds the *Courrier*, will give some idea of the present state of the trade throughout Europe. It establishes the fact that prices are as high as consumers can bear; that any further advance will gravely compromise the trade; and on these grounds breeders are urged, while the French government is recommended, if a most important branch of trade is to be maintained, to encourage breeders in such effort.

SAVE THE CORN FODDER.

We have long been of the opinion that there was not that attention paid to the curing and saving of the cornfodder that its value demanded. Every good farmer must know that cattle eat it greedily through the winter, and if cut and steamed it is as good for them as the best hay and really more milk-producing.

Where is the necessity of allowing it to remain in shocks until the middle or end of November? Corn should not be cut down until the stalks are dying and the grain is pretty hard, and then it should remain no longer in the field than is absolutely necessary for the drying of the grain. It should be husked as early as possible, and the fodder tied up in bundles and either carefully stacked near the cattle stables or put under shelter in sheds.

It is well known, too, that horses prefer it to the best hay; also that the blades are especially sought for to feed racing animals, strengthening their wind and bottom beyond any other food. It is besides wholesome provender and helps most beneficially in making the winter's supply of hay hold out till late in the spring, with the addition of chopped roots, which every farmer, who shrewdly looks to the main chance, ought to cultivate for feeding in the early part of the winter.—*Germantown Telegraph.*

Bony Deposits.—The horse, either from natural predisposition or from the severe exertions he is called upon to perform, is certainly more liable to bony depositions than any other animal. Adapted as he is to carry weight, and travel with speed, his ligaments and sinews are severely tasked and exposed to the consequences of over exertion. Yet, in addition to this, we are disposed to conclude, that in the horse, nature more readily seeks to relieve herself by ossific formations than in the human being. Some horses, too, show a much greater disposition to these depositions than others; the same amount of injury in the one animal will produce them, while in others it will have no such effect.

This predisposition of some horses to become affected with spavins, splints, or ringbones, is a matter of much importance in breeding; for it is no doubt hereditary, and ought to influence, in some degree, the choice of the mare, or the selection of the sire. It must, however, be acknowledged that the shape of the limbs which may predispose horses to become afflicted with these diseases is still more hereditary, and an objeet, therefore, of still greater importance.—*Prairie Farmer.*

Manuring Land with Sod.—A Herkimer County, N. Y., correspondent of one of our exchanges says that sod is one of the best means of manuring—indeed *the* best generally speaking,—for this sod obtains its wealth mostly from the atmosphere, and needs not be shoveled and carted on the field. It is the means of manuring the land here. It is the successful means—only thoroughly so however, with the use of clover in connection. Farms in this county have improved wonderfully. The land is better, and in many places much better, than the original soil was. And yet it has been cropped for near a century, the last 20 to 30 years being employed in graining and raising clover—raising it for seed to a large extent, so much so that the Herkimer county seed, was as noted as its cheese now is. Since the dairying era commenced, the land has been improving, and all along it has been paying better than raising grain; and this with less labor. Sod has done it.

NEW PUBLICATIONS.

Pear Culture for Profit. By P. T. Quinn, Practical Horticulturist. New York: Tribune Association. 1869. 72 pages.

Mr. Quinn's long experience as foreman and manager of the Prof. Mapes' nurseries and orchard has afforded him rare opportunities for familiarity with practical pear culture. The small number of varieties that he finds profitable will strike the attention of every reader of his book. Having lost thousands of dollars in attempting to cultivate some fifty varieties, he finds only some half a dozen profitable on pear stocks, and a single one on quince. On pear stocks he prefers Bartlett and Doyenne Boussock, for early; Clairgeau and Seckel for autumn; and Anjou, Lawrence and Winkfield for winter. For dwarfs the Duchesse d'Angouleme. His remarks and cautions on choice of aspect and varieties, preparation of soil, planting, pruning, gathering, marketing, &c., will be valuable to all who cultivate pears for profit. When reading any book, we like to feel that the author understands his subject, but we dislike to have him remind us of the fact too often in express terms. We think, that a smaller volume might have contained all he wished to say, and that an alphabetical index of subjects of two pages, would have been worth more to the *practical* reader than the twenty pages of introduction, preface, and inconvenient if not useless table of contents. The cuts, too, are clumsy and coarse.

Nebraska.—For the purpose of correcting the impression made upon the minds of those who studied geography in books and atlases which represented that section as the "Great American Desert," the Omaha *Agriculturist* has obtained a statement from ten dealers in and manufacturers of agricultural implements and machines, of the number sold by them in that town since the commencement of the present year. From these statements we find that the number of ploughs sold up to October has been 3455, reapers and mowers 804, horse rakes 510, wagons 706, threshing machines 52, seed sowers 198, and other things in proportion. The sale of so large a number of implements and machines in a single town, in about six months, is a pretty good indication that the farmers of this young State are doing something to make the "Desert" "blossom as the rose."

Patent Grape Growing.—In reply to a correspondent who asks if there is any patent on any particular way of growing grape vines from short cuttings, the *Prairie Farmer* says, a patent was issued to William Griffith, North East, Pa., May 14, 1867, for propagating grape vines from single buds in the open field. This patent covers the mode of propagating grape vines in open field culture, by covering single bud cuttings with a cold mulch, applied in sufficient depth to keep down the temperature of the bud, and thereby retard its sprouting until the roots have been adequately developed.

AGRICULTURAL ITEMS.

—The estimated stock of domestic wool in Boston is 11,100,000 pounds; in New York, 3,400,000 pounds; and in Philadelphia, 4,300,000 pounds.

—A correspondent of the *Rural New Yorker* finds that peeling willows in June, or whenever the bark will slip, and letting them stand till the next season, is sure death to stem and root.

—A correspondent of the Farmer, at Groton, N. H., writing October 4, says that the corn crop is much better than was expected during the summer; potatoes are first-rate in quantity and quality, with but little rot; apples, especially grafted fruit, almost a failure.

—The asparagus growers at Oyster Bay, L. I., find that, by dusting the plants attacked by the larvæ of the asparagus beetle with lime, they can effectually destroy it. It does not affect the beetle itself, which is quite lively and readily jumps away if annoyed by anything, but the larvæ being very thin-skinned, it appears to burn them or dry them up as soon as it touches them. By frequently going over the beds, its ravages may be completely arrested.

—A correspondent of the *Rural World*, who has lived on the Channel Islands twenty years, and raised cattle there, says that when these Channel Island cows are removed, though they may be good milk and butter producers, he does not believe that they will, anywhere else produce as they do in their native place. He believes the peculiar climate, which allows grass to remain green *all the year;* the careful and regular way in which cows are feed there; and the warm stabling and constant attention which they receive—make them produce more and richer milk than they ever can elsewhere.

—At a recent discussion by the Lexington, Ky., Farmer's Club of the best method of harvesting corn, Mr. John Webb said that in his opinion the best way is to cut it up when thoroughly ripe; because, first, the fodder is much better when dry, and second, the corn is more healthy when fully matured for man and beast. When it is cut green, experience proves that corn is certain to cause colic in the animals using it; green fodder is always unpalatable to stock, and it is especially so when damp. At one time in his life he believed in the value of green fodder, and has hurried out at daylight with his hands to secure it before it became dry, but he is satisfied now, from his own observation and that of other farmers, that dry fodder is eaten with more avidity than green, and cattle look better from using it.

For the New England Farmer.

THE GARDEN IN DECEMBER.

It is an axiom with all prudent rulers and governments, "In time of peace prepare for war." As thoughtful gardeners we will adopt the spirit of this motto, and say, "In time of leisure prepare for the busy season." The gardener who drops his implements at the first approach of hard frosts and gives his garden no more attention till the opening of another season, always finds himself behind hand in more respects than one. There is always work that is in order; seed time and harvest bring their appropriate duties, and so does the season of comparative leisure! While there may be but little labor for the hands, there is more opportunity for the exercise of the mind Thought, reflection, and planning contribute largely towards success in any calling, and a leisure season is the most favorable time for this occupation.

Sometimes there is an "open spell" of weather in December, favorable for out-door work, when improvements, &c., may be made; cleaning up, pruning, draining, ploughing, spading, &c., may be done. Turning up the soil at this season, often brings to the surface a large number of insects and their chrysalids, &c., which the weather will destroy, or the birds and fowls pick up and devour. If heavy snows or rains and ice come and adhere to trees, shrubs, or vines, attention is needed, that damage does not occur from overloading, breaking or splitting down of the trees and branches, by gently shaking off the snow or ice. The fences, gates, &c., will need to be looked after, to see that they are in good order, and kept shut, to keep out farmer "Slack's" or neighbor "Don't Care's" cattle, as they range the highways or fields.

Our hints for the practical, every-day operations during the winter season must be brief.

Cold Frames —In a late article in the Farmer, on "Cold Frames and their uses," there was an error in saying "sow seed of cabbage and cauliflower the last of *September*." I had in mind to say the last of *August*, and find by referring to my notes, that such was the time. The error must have occurred in writing out the article. In this latitude the first week in September is late enough in general seasons; sown then, the plants will have attained a growth of two to four inches upon the approach of cold weather, when they are transplanted into the cold frames, the plants set deep, putting the whole length of the stem, up to the leaves, into the soil, so that the stem may be protected, as it is the most tender part of the plant, and is first affected by cold. The main point in the successful wintering of plants in cold frames, is to give proper ventilation,—all that is possible without exposing the plants to too great cold. Attention is needed to see that mice do not gain admittance and so destroy the plants. Trap or poison them, and keep them out at all events. See that the frames are well banked up on all sides, and provide mats or shutters convenient to be used in severe weather. The novice in the use of cold frames may meet with some drawbacks or failures at first, in which case he should not be discouraged, but draw lessons so as to avoid shoals and quicksands in the future.

Compost.—All good gardeners look out in advance for liberal supplies of compost and manure. and the winter is the great season for accumulation. Muck or dried earth should be provided in abundance, to absorb all the liquids, &c., from the privy, pig sty, stable, and to mix with the droppings of the poultry. Muck or woods earth mould may be dug and hauled frequently, at any time during winter, and often easier or more conveniently on the sled than on the cart or wagon. No danger of hauling or getting together too much, as it will keep and be all the better for keeping.

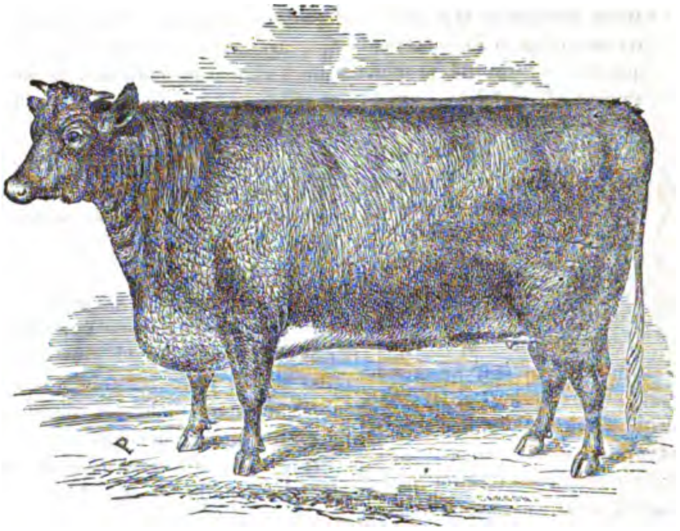
Seeds.—Take *good* care of all home produced. Select the best only, and clean out all others. Make a list of what is wanted, and if you cannot obtain pure and good of your friends, be in readiness to order from reliable producers and dealers as soon as their stocks are offered. W. H. White.

South Windsor, Conn., 1869.

THE SOUTHERN SCORPION.

The Scorpion is frequently found in Georgia, yet it is not abundant. It is a little venomous reptile, about an inch and a half to two inches in length, of a brown color, and in general appearance somewhat resembling a small crayfish, except the tail, which, instead of being flat, is armed with a horny spear and within which is a very sharp poisonous sting which can be used at will. The tail is curved over on its back, in the form of a hook. The sting or wound it inflicts is very poisonous and painful, although I have never known it to prove fatal. As their abode is generally under rotten logs, persons engaged in clearing new land are sometimes stung in the hand by them; the hand and arm swell up rapidly and become much inflamed, and the victim is laid up for two or three weeks and then slowly recovers.

Its habits are the most interesting part, however. The female, after being impregnated by the male, *falls to and eats him up;* she then lays five or six eggs and fastens them upon her own back, where they are hatched; she then turns her tail over her back and *stings all to death that she can reach;* a portion of the brood, however, usually escapes; those that are killed the mother devours when they fall off. The young that escape death, as they increase in strength and age begin to *devour the mother*, by eating into her back and vitals and finally kill her.—*Georgia correspondent Germantown Telegraph.*



A DURHAM HEIFER OF A BEEF FAMILY.

Whatever may be the final decision of farmers as to the claims of the breeders of the milking families of the Durhams or Short-horns as to their excellence for the dairy, there can be no doubt as to the popularity of the beef producing families. Our Cattle Shows and our city live stock markets furnish ample proof that they are popular with feeders East and West, but more especially perhaps at the West and Southwest.

A very fine illustration of the characteristics of the milking family of this race of cattle was given in the Weekly Farmer of March 27th, and in the Monthly at page 237.

The cut which we give this week is the portrait of a two-year-old heifer, of the beef producing Short-horns, and it well illustrates the wonderful fullness in every part of the carcass that distinguishes the pure bred animal of this class, making it valuable all over, even where most other breeds fail, and with no more offal than in a creature of a third less size of an inferior breed.

A comparison of these two illustrations, as representatives of the two families of Short-horns,—the one bred for the dairy, and the other for the butcher,—will prove interesting to those of our readers who are inquiring into these matters.

Most feeders desire a quick return for capital and food, and the animal which gives it in the shortest time is generally preferred. The flesh of the Devon and of some others may be of finer grain and of tenderer quality, but for early maturity, weight of meat, ripeness of points, and fullness in choice places, superiority is claimed for the beef families of the Durhams. Our cut, which is a specimen of good engraving, is copied from Allen's American Cattle.

To Break a Horse of Pulling at the Halter.—Procure a small rope, (about three-fourth inch is best, although a strong bed-cord will answer,) put the middle of the rope under the horse's tail, as one would the crupper, cross the ropes on the back, bring the ends forward and tie so as to form the lower part of a breast collar. To hitch, put the halter-strap down through the ring, and tie to the rope collar.—*Rural New Yorker.*

Planting the Chestnut.—In this region they may be planted as soon as they fall from the tree, while the shell is yet moist; or they can be put at once into rather moist sand, until the middle of November, or until March. We prefer the autumnal planting, immediately after the chestnut falls from the burr. It is a rapid grower, and with proper pruning it can be formed into a beautiful tree.—*Germantown Telegraph.*

WHEAT CULTURE.

AMONG farmers in this country as well as in Europe, the question as to the proper amount of seed to be used in the cultivation of grain has of late received considerable attention. We have long been convinced that in raising wheat too much seed to the acre is used, and have said that wheat should be *planted* not *sowed.* If this is done at the proper time, winter wheat may be raised with as much certainty as spring wheat; indeed, we think with more certainty, and every one knows that winter wheat, when it succeeds, yields a larger crop and of better quality. Let it be planted as early as it can be without danger of the seed stalk starting before the frost, and the plant will become well rooted, and unless the water stands upon the surface it will not suffer from the winter.

We are inclined to believe that wheat put into the ground from two to four inches deep, in rows sixteen or eighteen inches apart, with the grains not less than six inches apart in the row, would yield, with proper cultivation afterward, double the number of bushels usually obtained per acre.

Why should wheat unlike other crops deteriorate both in quantity and weight, as it is well known that it does? Corn is not only kept up to its full standard, but constantly improved, by selecting the best grains for seed, and giving it clean culture and allowing each plant sufficient space in which to spread its roots and find nourishment. New corn sown broadcast and so thick that it would shade the ground and thus keep down the growth of weeds, and the corn for seed taken from the average product of the field, how long before it would depreciate as much as the wheat crop has done?

The idea that wheat must grow so thick as to shade the ground in the spring, and thus favor the catch of grass seed which we usually sow with it, or so thick as to smother the weeds in the rich but poorly cultivated soils of the West, is we believe all wrong. We ask why grass seed should be sown at all with wheat? It can be sown to better advantage after the wheat is harvested, if the wheat has been properly cultivated. The wheat needs the whole strength of the soil while it is growing, as much as does the corn, and the weeds should be kept down by cultivation in the wheat field, as well as in the corn field.

The editor of the *Prairie Farmer* in discoursing upon this subject makes some very sensible remarks, which we would commend to the consideration of Eastern as well as Western wheat growers. He says: "If wheat is sown thick enough to keep weeds down it is sown thick enough to keep down a large number of spires that would grow and produce seeds, 'some an hundred fold, some sixty fold and some thirty fold', if there was room enough for them to develop.

"How many of our farmers are aware how near together the grains of wheat lie when they sow two bushels of wheat to the acre? and yet some sow heavier than that. One peck to the acre will put four grains on every square foot of the land, and it is highly probable that these are more than would grow to the best advantage. The truth is that very few of us have ever seen the product of a single grain of wheat that was growing to the best advantage in regard to space and cultivation. One grain of wheat in soil free from weeds and kept mellow as we do the soil around some vegetables would show a product as different from what we see in an ordinary broadcast wheat field as the solitary mountain oak differs from the puny sapling in the shady forest.

"One of the best yields of wheat that we have heard of this season, is that of Dr. James S. Hamilton, of Athens, Georgia. This crop has forty-six bushels to the acre. We have not seen it stated how much seed was sown, but from the fact that it was drilled eighteen inches apart, we conclude that but little seed was used.

"The experiment of Alderman Mechi, of London, showed the astonishing yield of forty-eight bushels, and two bushels of screenings, to the acre, on land on which less than a peck of seed was sown, or rather planted. This wheat weighed sixty-six pounds to the bushel.

"When the time comes that we plant, hoe and cultivate wheat, a part of the extra expense of tending it will be defrayed by the saving of seed, from the difference of the two bushels or more which many now use, and the peck that will be spread over the same ground."

SEED WHEAT.

An anecdote is told of a former Emperor of China, to the effect that walking by the side of a wheat field, he saw a stalk of wheat much larger and riper than the rest of the field, and that he plucked it and saved the grains to be sowed, and from it derived a variety of wheat much earlier and more prolific than the wheat in common use, and thus conferred a great benefit upon his people. When wheat is sown in drills, we can easily pass through the field and cut into a basket the heads that are the plumpest and first ripe, and beat out the grains for seed. In a day's time a careful man might thus collect several pecks of seed wheat, that would be as much better than the average of the field as the ears of corn that we select for seed are better than the average corn of the corn crop. When we come to sow with the drill, only about a peck to the acre, this will not be so great a job as it would now seem, when we sow two bushels to the acre. The next best course would be probably to use the Separator of Mr. Sanford Adams, or some other Yankee invention, which will retain only the largest and plumpest grains to be used for seed, and let through all the small grains and foul seeds.

For the New England Farmer.

GRAPE-GROWING IN NEW ENGLAND.

To persons who are fond of growing fruit, grape culture is very fascinating; and the manner in which some persons who were interested in the sale of vines described grapes,—their appearance, qualities, uses and culture,—was so interesting, that like a well written novel their recorded opinions and statements could never be fully appreciated without digesting them in a way which often proves that "reality is stranger than fiction," and far more instructive.

My articles on "Grape Fever" in the FARMER for March, 1857, were intended to help those who at that time were in danger of catching the fever; and had I not feared that, being myself a dealer in vines, I might be suspected of having other motives, I should, at your repeated request, have said more about grape growing in New England.

The years of drought, previous to the time above mentioned, enabled experienced persons to ripen in our neighborhood some Iona, Israella and other valuable varieties, which hereabout can never be ripened fit to eat except in rare seasons and under unusually favorable conditions, and then at a cost four times the value of the fruit. Who, in the last three years, has heard of our most experienced amateurs ripening Iona, Israella, Adirondack, Rebecca and Allen's Hybrid? Why is it, that in the agricultural and horticultural papers we now see so few advertisements of the above named vines and many others, including most of Rogers' Hybrids.

The truth which experience teaches in regard to out-door culture of the above named varieties is, that when they can be ripened they are, in the opinion of those we regard as good judges, excellent in appearance and flavor, but to ripen them at a cost that will give a profit is the impossible thing I am writing about.

We have second-rate grapes which in suitable soil and location, and under ordinary culture, will come to that condition of ripeness which will make them preferable to the first-rate ones for the table, if both are grown under the same conditions in our State or in any place north of Boston. I became so well satisfied of this, that for two years past I have been careful to say so to persons when engaged in selling vines to them, and when conversing with visitors on the merits of each variety they may have been interested in. Some who could afford it, concluded to experiment for themselves, and the result was that like myself they concluded that wit when bought by experience is often valuable; others continue to experiment and complain in a way that children sometimes will, when they are repeatedly foiled in endeavoring to accomplish things which the laws of nature are opposed to.

I wish not to discourage the growing of grapes, improved varieties I mean. I wish all men to share with me any luxury nature furnishes for man's good, and as grapes when fully ripe are pleasant to the taste and refreshing to the eater of them, all who cannot afford to buy them, but who have a rod of land on which the sun shines, should grow them; for on even such a small space I sometimes grow full one hundred pounds of fruit, that most persons would relish and greatly enjoy the use of as refreshing food and drink.

I am aware that many say grapes are an expensive and an uncertain crop to grow. I answer, by no means is either correct in any sense that may not be applied to other fruits. The loss sustained in grape culture in the northern States can be traced to inexperience, or want of a broader experience, which would have suggested a change of variety of vine cultivated, instead of continuing to grow those "run out;" just as our farmers change their corn and other seeds; so those who have failed in the older grape-growing States should have planted new varieties and selected those that suited the location. It will be said that this has been done without success, which I admit; but, I also say, that in the same sense and to as great an extent, they have generally succeeded, equally with the farmer who changes his corn and other seeds; in proof of which, note the astounding increase of quantity sent to all large cities, and the steady increase of the same.

I have increased, in ten years, my stock of bearing vines from one vine to seven hundred, and stop only because I have no more suitable land for them. I do not expect they will make me rich in the generally accepted sense of that word, but they pay me to grow them on land that will sell for high prices, and where hired labor costs from two dollars to two and a quarter per day. In a future paper I may say what varieties I have grown, how I grow them, and what has been my measure of success. JOHN FLEMING.

Sherborn, Mass., Oct. 4, 1869.

For the New England Farmer.

HOW THE CALF IS BEING RAISED.

I am raising a calf which is now about seven weeks old. The calf was born July 16th. I bought it when five days old. I learned it to drink new milk in two days; I then substituted skim milk so rapidly that in two days more I gave it no new milk at all; and in a week from the time of purchase its drink was about half skim milk and half hay tea. I was very particular from the first to encourage it to eat hay. Experience teaches me that calves prefer early cut, *last year's hay*, to anything newer. They will eat very little green grass when they can get that, and it seems to be just what they need to keep the bowels in a healthy state. There is more danger of a calf coming to harm from scouring than from any other cause. At sixteen days old, it would eat hay and chew the cud like an old cow. When I began cutting fodder corn, about the 8th of August, the calf being three weeks old, I pulled off and gave it the green leaves, of which it would eat sparingly At the age of six weeks I took it out doors for the first time, and since then have tied it out four hours per day, in the thin shade of a dying tree.

Meanwhile plenty of loam, housed when dry for the purpose, has been kept under the calf; and I consider the manure thus made has nearly or quite paid me for all time and labor expended up to the present time. I have given no meal or grain of any kind; the milk, hay tea, and hay and corn fodder, being its only food. I occasionally give it fresh loam from out doors to eat. I litter it nights, and calculate to keep it in a comfortable condition. My neighbors say that the calf is a large, fine animal, with every prospect of making a good cow, especially for butter; and several have said it was the fattest calf they ever saw!

From what I have seen, I think Dr. Hartwell has not given full credit to hay tea as food for young stock. I think, in raising a calf, the first object, (after it has sucked three or four times,) is to learn to drink well. For this purpose new milk is most convenient. Then, just as quickly as possible, substitute skim milk; then, if that is scarce, learn it as rapidly as possible to drink hay tea, in greater or less quantities.

In Secretary Flint's Fourteenth (Massachusetts) Report, at pages 37 and 38, there is a statement of Hon. Simon Brown, (Ed. FARMER) that he has raised fine thrifty calves with hay tea *alone*, after they were four or five weeks old,—the hay tea being largely mixed with the skim milk at first.

In raising young stock, especially if they come late, great care should be used in feeding, bedding and sheltering these babies of the barn, especially in winter, to keep them thrifty, and prevent their getting stunted. Meanwhile, there may (may there not?) be such a thing as forcing a calf too much. A neighbor of mine raised a cow several years ago, I cannot give the exact details, but it sucked a long time, grew fast, and had a calf at fourteen months old; but as a *cow* she proved of value only for beef.

There are many ways of raising stock, and no one exact rule will always suffice in full. "What is food for one man, is poison for another," and it is in a measure so with calves. Different breeds need different management, and so do different individuals of the same breed. The Jersey is tender. The Devon is hardy. Consequently a greater degree of care is necessary in raising Jersey, than in raising Devon cattle.

But one thing is plain, the too frequent habit of tying out young stock in high grass, without shade, and giving no dry hay, is next to ruinous. Another important item is to feed warm drink to the calf. It is a great preventive of scouring. *And more than half the trouble in learning a calf to drink, usually results from giving the drink too cold.* Please to note that! While I believe that skim milk and hay tea make the best food for calves, it is but fair to state the fact that very fine animals are raised by other methods. A neighbor of mine, having no cow, purchased a two days old calf, and brought it up on oat meal gruel, and his success was such that it would be hard to convince him that oat meal is not the best food for growing calves. I think, however, that when such food is given to young stock, larger quantities are required to keep the animal up to a given standard when matured, than when the food has been of a lighter nature.

The time I commence feeding calves with meal, is when cold weather begins in earnest. Then they need it. Begin with very small quantities, and, as Dr. Hartwell says, don't give more than the equivalent of a pint of corn meal a day, when a year old. Oats and shorts contain large quantities of bone-making material, and are probably the best grains for growing stock. There is no chewing bones by animals of any age thus fed. Still, where the calf is inclined to grow large and bony, and lacking in plumpness, corn meal may be substituted in a limited degree.

Clover is probably better than any other one kind of hay for calves or milch cows, but all need a change. Rowen of any kind is excellent, also corn fodder. A little bog hay will occasionally be eaten with avidity in preference to any other, for a change, especially if the animal thinks it is stealing it. Nothing is so good as a daily feeding of some kind of roots. I do not think a calf is really fitted to eat much green food until it is from four to seven months old, the time varying with different animals. It is also proper to commence gradually. A calf born in April or June may be let out into a dry pasture in September or October, the grass not then being in a state to scour the animal, as in previous months.

Meanwhile, as cattle are comparatively scarce and high, all the good stock, and none other, should be raised.

A poor farmer without capital to expend in fine stock can often work into it by buying young calves from good stock, and taking pains with them. A poor man of my acquaintance has a cow for which a rich manufacturer has made a standing offer of $150. He bought it when a small calf, and raised it by hand.

Where milk cannot be had or spared, or is considered, as is often the case with milk sellers, too valuable to raise calves on, the oat meal gruel and hay tea may be resorted to; and the calves, as in Mr. Brown's case, be raised on hay tea wholly, after five weeks old. Always study the comfort of the animal. The man who ties his calf out in the hot sun, and among the tall grass, ought to be tied out likewise, and fed on green apples. A good bed and warm stall in winter, save food, and increase the growth and value of animals. "Boards and nails," shingles and battens, are often substitutes for food, and a proper distribution of hay in the mow often keeps the wind out of a loose barn. Dry loam, should be stored, and used beneath the litter in winter, both for the comfort of the animal and for the saving of manure.

In addition, I would say a word in regard to absorbents. It seems to be usually considered that the only benefit in using absorbents for the manufacture of manure is in the saving of the liquid. It is evident however, that the dissolving power of urine and of green dung renders much crude inorganic matter, of which absorbents are usually composed, fit for plant food; while the gases from the manure penetrate through the mass and become fixed and ready for plant food.

Franklin, Mass., Sept. 5, 1869. John.

PAMPERED STOCK.

It is certainly to be regretted, that when the prospect for the general diffusion of the blood of so valuable a race of domestic animals as the Short-horn cattle seems so encouraging, there should be any of the breeders of these noble animals practicing such a system of feeding and management as cannot fail to have injurious effects upon the breed. High feeding, pampering and "training" for exhibition and sale, are not only calculated and intended to deceive and impose upon the public, but tend also, as every intelligent breeder knows, to impair the health, the constitutional vigor, and all the useful qualities of our herds.

Cattle are wanted for use, and not as mere ornaments; and therefore the best are those which make the largest return in *good* flesh and milk for the food consumed and the care bestowed upon them. Of course we cannot expect an animal to be successful under such a test as this, that has not a sound constitution, with such substance of bone and lean flesh as plenty of good grazing, with the exercise it will afford, alone can produce.

To confine cattle in stalls from calf-hood, and feed them with oil meal and similar fat-producing substances; to cover with blankets and rub and curry as horses are trained for the race, except that the sweating and exercise are omitted, will undoubtedly cover almost any animal with fat, give a fine gloss to the hair, and therefore, to an unpracticed hand, convey the idea of superior handling. The flesh will be soft, the hide yielding and flabby; whereas if the same amount of flesh had been laid on with ordinary feeding and grazing, with proper exercise, the flesh would feel firm and solid, though the skin would not have a harsh touch. When will our judges learn that a thin and flabby hide is objectionable, as is also soft and spongy flesh, when the animal is ripe-fat? There is scarcely a butcher in America so ignorant as not to know this.

It is a well-known fact that up to the period of 1839 or 1840, the majority of Short-horns were kept only for grazing and dairy purposes, and were treated with only such feeding and care as the ordinary stock of good farmers had. If we may be permitted to express the hope that the Durhams of our day are equal to those of that period, it is very certain that we have no evidence on which to ground the assertion that they are any better.

While, therefore, the pampering and training, so common in our day, have, in many instances, very decidedly impaired the constitution, the milking, grazing and other useful qualities, all intelligent men know that the practice has not even improved the style and appearance of the stock. While fat and in training, they have indeed looked sleek and smooth, and their soft and flabby handling has passed with inexperienced men for quality; but when put on ordinary keeping and used for the common purposes of producing milk or beef, they have sadly disappointed the expectations of those who purchased them in the show condition.

I do not object to keeping stock in good order. Cattle should have plenty of the best pasture in the grazing season, and of the best hay or its equivalent in winter, with some meal or grain to the calves and cows in milk. Nor is a moderate allowance of grain to all the stock in winter objectionable; and where corn is not too dear, is probably not more expensive than to feed hay alone. What I object to is the unnatural method, already stated, of so much housing and over-feeding with oil cake, large quantities of milk, &c., so that breeding animals, old and young, are kept just as fat as all this care and stuffing will make them; and that, not with honest, solid flesh of well marbled (lean and fat,) as good beef ought to be, but of the soft and greasy sort, tha will produce the fashionable touch. —*Hon. T. C. Jones, in Ohio Farmer.*

AGRICULTURAL ITEMS.

—It is stated that the Percheron horses, introduced into Central Ohio within the last few years, are giving good satisfaction, and are being bred more extensively this year than at any previous one.

—Mr. J. Harris says in the *Agriculturist* that he does not know how he could get along without petroleum. He keeps the wood work of his farm tools and implements saturated with it, to keep the rain, sun and air from swelling and shrinking and ruining them.

—William Egger, of Lowville, N. Y., a Swiss dairyman, says in the *Rural New Yorker* that cows should be salted every morning, and if in the stable, before foddering, but never after taking water. This is the practice of the best stock-keepers in Switzerland, and he thinks much preferable to salting them once or twice a week, or to keeping it constantly within their reach.

—For a remedy for splints and spavins, D. P. Hawes, Woodville, Iowa, says in the *Rural New Yorker*, "Put into a large-mouthed bottle six ounces oil of origanum; two ounces gum camphor; two ounces mercurial ointment; one ounce tincture of iodine. Melt by putting the bottle into cold water, and heat the water after the bottle is put in it. Apply twice, daily, on splints; three times, daily, on spavins, for four or five days.

—In one of his letters from the West, "Carlton' says, "I would not make the farmers of New England discontented. I would not advise everybody to put up their farms at auction. I would not advise any well-to-do farmer of Massachusetts or Vermont to leave his old home and rush out here without first coming to survey the country; but if I were a young man measuring off tape and ribbon, or selling stays and buttons to simpering young ladies in a city store, I would give such a jump over the counter that my feet would touch ground in the center of a great prairie!"

—A correspondent of the *Rural New Yorker* gives the following as his plan of curing sowed corn. I cut my corn with a stout cradle, when it stands up, or with a corn-cutter when lodged; allow it to lay on the swath a day or two, then rake up and bind the same as oats and rye. I then take an ordinary fence stake, drive it firmly in the ground, set three bundles of corn around it, and tie them; then seven to ten more around these (according to size,) and bind them at the top, with one or two bands; I then cap the whole with two bundles. When put up in this way, they will stand till thoroughly cured, when they can be stacked or put in the barn the same as corn stalks.

EXTRACTS AND REPLIES.

CEMENT WATER PIPE.

I would like to make some inquiry about cement water pipes. Are they liked by those who have tried them? What proportion of sand and gravel is used, say to a barrel of cement?

DANIEL T. PIERCE.

Prescott, Mass., Sept. 27, 1869.

REMARKS.—Properly made cement water pipe we believe gives good satisfaction, but if poorly made it is very unsatisfactory. Mr. L. M. Hill, of Amherst, in your county, has nearly 200 rods laid by Mr. Benjamin Livermore, of Hartland, Vt., who has had much experience in the business, and has we believe invented and patented some process by which the construction of the pipe is much facilitated. Mr. Hill would probably answer any inquiry you wish to make. Our impression is that some six to eight parts of sand are used to one of cement, in ordinary work. But we know nothing of the proportions used in making water-pipe. We understand, however, that much of the cement in the market is totally unfit for that use, —does not work or "set" right,—and that of the same lot, one barrel will be good and the next worthless, while to the unpracticed eye both appear alike.

CHESS TURNING TO WHEAT!

Having read the communication signed "E," from Thetford, Vt., in your issue of October 2d, I was reminded of a similar occurrence that happened in Tunbridge, Vt., not more than thirty or forty miles from the place where this wonderful transmutation occurred. and have thought that a repetition of it might be serviceable in the solution and proper understanding of some of the wonders, not to say miracles, of these latter days. Now, I am, like your correspondent "E.," an unbeliever in these alleged changes of wheat to a class and species of plant so widely different from wheat as is chess. But to the story of our eye witness: "A quantity of ground was sowed to wheat in the fall, which grew and looked well; very little of it winter killed. But when it came to head out it was all found to be chess. A small portion of it was saved for seed, and the rest hayed and put in the barn, affording an immense crop. And at the proper time the seed saved from a portion of the field was sowed, and cared for the same as is usual for grain crops." And now, mark you, for here comes another wonder, and one which so far as I can see to the contrary is perfectly consistent with this whole theory of transmutation, if not with degeneration. "The crop grew well, stood well in the spring, and a good crop of *wheat was grown*, where nought but chess was sown"

Now, Mr. Editor, I know the man well who tells this for truth, and he is considered a truthful man. And he evidently believes it. Now I would like to have some of these believers in transmutation and degeneration explain this freak of nature.

North Hatfield, Mass.. Oct., 1869. OBSERVER.

FEEDING MEAL TO COWS AND PIGS.

I feed my milch cows with a mixture of corn meal and shorts, about two quarts and a half each per day. When work is not driving I give it with cut feed. In the busy season I mix it, (half at night and half in morning,) in a pail of water at each feeding. This I consider the most convenient way, as it takes very little time to mix it or for the animal to drink it. I make butter, and I would like to ask if there is any objection to this way of feeding the meal in water?

Is there any other way by which the meal could be fed to produce a greater value of milk and butter, or of beef? Of late, many teamsters argue that horses should have their meal dry. Some hog fatteners say that swine will thrive better on uncooked than on cooked food. These are questions of importance to the farmer, and should be thoroughly discussed. J. W. SNOW.

Cumberland, R. I., 1869.

SULPHUR FOR LICE ON CATTLE.

I notice very often the inquiry in the FARMER, How shall we kill the lice on our cattle? I have tried almost all the panaceas I have seen recommended. Some of them have proved beneficial, while others—kerosene oil for instance—were worse than the disease. I have settled upon the following, which has proved entirely satisfactory with me. Fill the hair full of sulphur, rubbing it in thoroughly with the hand; and give the animal a little internally, with its meal or salt. Two or three applications have always effected a cure.

THE CROW QUESTION.

I rank the crow among my worst enemies. Last year by putting up lines, &c., I kept them at a proper distance from my corn field through the spring; but after my corn was put into the stook, they came down upon it like the plagues of old, destroying from one-fourth to one-third of my crop. I have never had any peculiar affection for the birds since.

PHOSPHATES AND PLASTER.

I am experimenting considerably this season with phosphate and plaster, and will give you the result at some future time. J. L. FRYE.

South Danville, Vt., 1869.

NORWAY OATS AND GOLDEN-SHEAF WHEAT.

I notice large stories about the "Norway oats." My experience with them is not as favorable. I obtained one quart of seed of Mr. Ramsdell, and sowed on fair quality of land, but rather late, and the yield was *two quarts* of poor looking oats. Disposed to give them another trial, I sowed the two quarts on four rods of land that would give sixty bushels of corn to the acre this year, by the side of one quart of Excelsior oats from the patent office, on same surface of land, with the following results: *Norway* yielded one and one-half bushels of thirty-two pounds, while the Excelsior yield was two bushels of thirty-six pounds by actual weight, and of much better appearance. Enclosed is a sample of our Golden Sheaf Spring Wheat, yielding twenty bushels from one and one half sowed on three-fourths of an acre of land, and in a location where our neighbors predicted that no wheat could be raised. R. BURNHAM & SON.

South Strafford, Vt., Oct. 4, 1869.

THE BORER.

I have found an effectual remedy for the destruction of the egg of the Apple Tree Borer. After the deposit of the eggs of the borer, which will be in September, make a wash of one pound of tobacco, and one pound of sal soda, put into two gallons of hot water; let it stand for thirty minutes, stirring it frequently. Then take a rag and rub the body of the trees—the lower part especially—with this wash and the work is done.

This is a good wash, also, for removing lice from the limbs. I have had several young trees destroyed by the pests, but by using the above wash I have no trouble. G. L. RANDALL.

Riverside, Me., Oct. 1, 1869.

COW SUDDENLY DRIED UP.

The inquiry of "E. W. K." reminds me of a case that once came under my observation. A fine cow was changed from a poor to a rich pasture, but instead of giving more milk she gave less and less at each milking, much to the surprise of her owner. By accident it was discovered that a yearling steer had relieved her of her milk, and thus the sudden diminution was accounted for. I have heard of pigs doing the same for a cow, while lying down. Perhaps "E. W. K." will discover some such cause for the decrease in the flow of the milk of his cow. A READER.

COMMON OAT.

I am a hired man and work for one that takes the FARMER. We have counted the produce from a stool that grew from a single seed of the common oat, on a piece of green sward on the farm of W. Hanson. There were fifteen stalks, yielding from 60 to 272 kernels each; the whole amounting to 2793. JAMES W. TAYLOR.

Williamstown, Vt., Sept. 28, 1869.

SPREADING CLAY ON SANDY LAND.

What is to be done with a field which has been ploughed so deeply that several inches of sand have been brought up to the surface? I have tried the experiment, many times, of spreading a thin coating of clay upon land which is very sandy and has been somewhat deeply ploughed. I have thus improved the quality of poor land surprisingly. I would advise to do this; manure well and sow with winter rye. A CONSTANT READER.

Winthrop, Mass., Oct., 1869.

DEATH OF A FARMER.

Lorenzo J. Day, a successful farmer of this town died on the 11th of August, from injuries received by a fall from a load of hay, July 21, which so injured his spine that though suffering greatly, he was entirely helpless. He was systematic and thorough in all his work, "having a place for everything, and everything in its place." For several years he had taken the NEW ENGLAND FARMER, and his drained fields, good fences, clean tillage and abundant crops, were evidence of the care with which he read its pages. He was about 70 years of age. A NEIGHBOR.

Bristol, Vt., Sept., 1869.

OCTOBER.

Thou monitor of Winter's reign,
  Approaching fast his crystal throne,
Last of dead Summer's funeral train,
  Her treasures all thine own.

Thy pallet spread with magic dyes,
  The forests painted by thy hand
Stand glowing neath thy sombre skies
  Throughout the land.

Through orient windows of the morn,
  The sun looks forth with regal blaze;
What glorious tints the fields adorn
  To meet his gaze.

As ruddy fires o'er mountains sweep,
  Like some old allied hosts arrayed,
High up the foliaceous steep
  Red banners are displayed.

The tall elm's drooping branches bend,
  In the light breeze at morning hour,
With yellow drapery to send
  To earth a golden shower.

Midst bowers of pale and emerald hue,
  The walnut stands in sober brown,
Where boys shake, when their task is through,
  The brown nuts down.

Pay-mistress of the laboring swain,
  Who laughs as soon as thou art born,
For he knows thou wilt load his wain
  With golden corn.

The leaves light from the tall shade tree
  Down at the quaint old farm-house door,
Where sounds glad mirth and jollity,
  Till husking time is o'er.

Epping, N. H., Oct., 1869. M. J. HARVEY.

A MUCK MEADOW.

I have a muck meadow comprising about ten acres. A considerable stream passes through its centre. It is dry and hard enough to bear a team at all seasons of the year. What crops can I raise on it most successfully? Will corn grow there? Suppose I can raise grain, is there any danger of diminishing its fertility? I can flow the whole by building a dam some four feet long,—the highway forming the remainder of the dam. Please give me such directions for its treatment as you deem most advisable with a view of ultimately cutting grass. ZEN.

Androscoggin Co., Me., 1869.

REMARKS.—The first thing to be observed in such a meadow is its hygrometic condition; as, if the water stands too near the surface, the soil will be too wet; will be cold and plants will not send their roots down into it. On the other hand, if it is drained too deeply, it is so light and porous that in a season when rains are not frequent, it would become so dry that nearly all plants would suffer for want of moisture.

If possible, in all such meadows, the height of water should be under the control of the cultivator. This may be done by a dam or other means, so that he can preserve it at all times at such a level as will keep the whole mass in a moist condition, from the water level to the surface.

On uplands, the black soil of the surface varies in thickness, and is followed by what is usually called a "hard-pan" of clayey or gravelly loam, which prevents the water from passing off rapidly, and at the same time is constantly supplying the surface with moisture by capillary attraction.

On muck meadows a contrary course takes place. After the water is drained away, the whole mass lies lightly, is porous, so that sun and air easily penetrate it, and it soon becomes quite dry, not only on the surface but to a considerable depth below. When rains are frequent it will be sufficiently moist to sustain the growth of plants; but in a moderate drought the plants soon cease to grow. Hence the necessity of having the water under control.

In a meadow where the muck was several feet deep, but where the water was under control, we have seen Indian corn, beets, onions, cabbage and other vegetables growing luxuriantly and thoroughly perfecting themselves,—so were squashes, melons, cucumbers, &c. The best grasses also grew finely. You ask if "there is danger of diminishing its fertility?" Certainly, there is. It will need the generous hand of culture, as well as the uplands. But with fair treatment it will prove to be among the most profitable lands, because so easy to work and so certain of carrying crops to perfection in dry seasons.

BUCKHORN—HORSE-TAIL—ONOCLEA SENSIBILIS.

You have recently cautioned your readers against the use of the plant known, indifferently, as "Horse-tail," "Mare's-tail" or "Polypod,"—the assertion being that its effects when fed to horses are very injurious. In this vicinity there are many farmers who believe that the plant known as "buckhorn," is poisonous as horse provender. Now, are "polypod" and "buckhorn" one and the same thing? ESSECKER.

Danvers, Mass., 1869.

REMARKS.—We are not certain what plant is known in your section as "buckhorn." That name is applied in Darlington's "Weeds and Useful Plants" to a species of the plantain,—*Plantago lanceolata*,—where it is remarked that nearly all kinds of stock eat this plantain freely, and it has even been cultivated expressly for a sheep pasture, but it is generally much disliked in Pennsylvania. If this is what you mean by "buckhorn" it is quite unlike the horse-tail in appearance and manner of growth.

The plant for which you ask the name was sent to one of our young friends in the agricultural college at Amherst, who has very kindly given the following answer:—

The botanical name of the plant you sent is "*Onoclea sensibilis*,"—a fern which is very common in wet places. I showed the specimen to our Professor in Botany. He says he never heard it called "buckhorn," but thinks the name would be very appropriate.

There is a fern which resembles this somewhat, called "*Polypodium vulgare*," the common name of it being "polypody;" but these common names may change. The new Freshman class numbers thirty-three, so that we have in all about one hundred students here. For the last two weeks our class have been engaged underdraining the wet land about the new barn. A. H. B.

Amherst, Mass., Sept. 28, 1869.

DOVER RED, OR HORTON POTATO.

Having read several statements illustrative of the great fertility of the Rose and other new varieties of the potato, I thought I would try a little experiment with an old sort, the Dover Red, which has been considered a shy bearer. The soil of this beautiful river town is a disintegration of stone and silex, common on the Hudson below the Highlands. This soil is soft and pliable after rains, but when dry it becomes so hard and tough that it cannot be worked with ordinary garden tools. The spot experimented with was a hard sod on which the grass was six to eight inches high when it was spaded, and no manure was applied.

From two small tubers, both weighing three ounces, I cut out twelve eyes with a pen-knife, taking very little of the potato, so that the twelve eyes did not probably exceed half an ounce. These were planted separately, ten inches apart and four inches deep, about the tenth of May. Eleven of the twelve eyes grew well for eight or ten weeks, under the stimulus of the frequent rains of last spring. Early in August there was a drought which continued, with an occasional shower, till they were dug, the 27th of September, at which time the vines were fresh and apparently growing. The stalk from one of these eyes measured at the butt two and a quarter inches in circumference, and six feet and two inches in length, with nine branches, the length of which with the stem, exceeded sixty feet. This vine produced one and a quarter pounds of potatoes. Some of the other vines were nearly as large. The produce of the eleven vines was seven and a quarter pounds, though from the severity of the two months' drought the potatoes were probably not more than half grown.

On digging the potatoes I found them with the "Peach Blow" coloring,—skin mottled pink and white. The Dover Red when cooked is a pure white potato. Who can account for this change of color? H. Poor.

Yonkers, N. Y., Oct., 1869.

Remarks.—The following description of the Dover or Worcester Seedling, is from Mr. Burr's *Vegetables of America.* "Tubers of a pinkish white color, and similar in form to the Jackson White. Eyes deep-set, flesh white. Stalks upright; blossoms pinkish, but not abundant."

ALSIKE CLOVER.

I have grown a plot of this new variety of clover for two years, and am prepared so far to endorse Mr. Baldridge's remarks in the Farmer, with regard to it. I am sure that no plant with which I am acquainted will bear comparison with it as a honey producing plant. My plot was literally alive with bees, while the white clover in the adjoining fields attracted but very few. Unlike the red clover, the stalks are small, and both stalks and leaves continue perfectly soft and green until the seed is ripe; consequently the hay is not injured in the least by maturing the seed. It seems to be perfectly hardy, while in our latitude, the ordinary "Red Clover" winter kills as often as otherwise, consequently comparatively little is sown even on our light soils where it would otherwise be invaluable and almost indispensable. We hope that this new variety will make up the deficiency in the clover crop in this northern section. I have no seed for sale, and do not consider my experience conclusive, for our last winter was remarkably favorable, and all clover wintered well.

West Georgia, Vt., Oct. 1, 1869. O. C. Wait.

CHERRY POISONING.

I have read the remarks of Mr. Simonds with much interest. The loss of three valuable cows in this place,—two of which were known to have eaten the foliage of the wild cherry,—leaves no doubt in my mind that in some seasons, and in some conditions, the eating of a small quantity of the green or wilted leaves will cause death. Among the *reading* farmers in this place, it is a settled conviction that wilted cherry leaves must be fatal, but that green ones are not so. The active poison is undoubtedly hydrocyanic, and it may be, that wilting developes it. When an animal has been kept in the barn until June 15, I should consider it highly dangerous to give it access to the cherry. In the spring, a limb or two is removed from a cherry tree near the house, and in some cases is permitted to remain. If cattle have access to it at such time, trouble may be apprehended. So in regard to trimming up trees in the road. Those who depend on *street pasture* occasionally get more than they bargain for. Cattle confined to the barn during the year, are not, and cannot be healthy. They should have a small pasture, if not more than three rods square, in which to get a bite of grass daily, and breathe a little sweet, pure air. But this opens up the whole question of soiling of cattle, and I do not propose to say anything about that.

L. W. Puffer.

North Bridgewater, Mass., 1869.

MILKING A KICKING COW IN SAFETY.

I have a kicking cow which I milk in perfect safety. I bore one and a half inch hole in the stable floor just behind and a little to the right of the right-hind foot of the cow, as she stands tied up in the stall, and against a partition on the left. Then procure a stout stake, fit it in to the hole in the floor and to a simple fastening in the scaffold floor, and put an iron bolt with a one and a half inch eye through this stake, about eight inches from the floor. Into this bolt, I put one end of a stick; the other end going into the partition. This stick comes close to the cow's legs and behind them. A small chain is then fastened across from the stake to the partition about three feet from the floor; and a stout board is placed on the right side of the cow, reaching from the floor to the scaffold in such a manner that it can be easily removed by me, but not by the cow. I then have two stout, short straps to buckle around her ancles. To these straps ropes are attached. After putting on the straps, pass the ropes first beneath the stick and up around it once or twice and to the stake above on one side and to the partition on the other and fasten them.

I can put on and take off this anti-kicking concern in less than one minute, long as it has taken me to describe it. Indeed I really believe I could have milked a dozen kicking cows in less time than I have been writing this, and done it better. I find it takes a great many words to describe a very simple thing, and I wonder newspaper men do not become disgusted with their business. Please straighten out and shorten up my description if you can, or burn it if you please; but my cows are not going to kick me when I am milking, nor I them.

In my apparatus the cow can not get forward nor backward, nor sideways, nor lie down; all of which she attempted with desperate exertions. Nor can she kick at all. Stand she must, and that was all I wanted of her. The whole rigging was used a short time, after which I put on only one strap and rope, leaving the left leg free. Try it, ye who have vicious cows, and not beat them with the milking-stoool. **Lewis L. Read.**

Hebronville, Mass., 1869.

ASHES ON GRASS LAND.

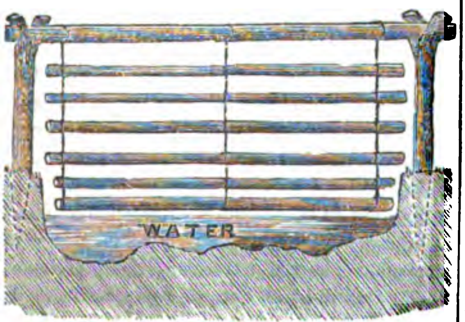
I wish to inquire of you which is the best time to spread ashes on grass land, the fall or spring, and how much would be a good coating for an acre? **Norman Taylor.**

Plymouth, Vt., 1869.

Remarks.—Sow it any time when you can make it convenient. Five bushels to the acre will be useful, but a larger amount would be better. If there were but twenty bushels to be used we should advise sowing it upon *two* acres rather than upon one. If one has an abundance of ashes, more than ten bushels to the acre would probably be useful.

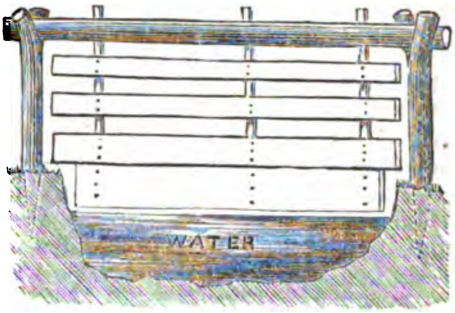
FLOOD GATES.

Fences across streams and those on the intervales which skirt the streams in New England have been swept away by the late flood to a larger extent probably than has ever before been done by any previous freshet. Lumber is dear and in many places scarce. It will be a serious matter with many farmers to replace them, especially with those who have lost heavily in crops and stock, and in other ways. On passing from Springfield, Mass., to Hartford, Conn., last week, we saw sad evidence of the destruction caused by the flood.



Flood Gates Made of Poles.

With a desire to aid those who must now go to work and replace their fences about the streams which pass through their farms, we copy from the *Rural New Yorker* the following illustrations of two plans for flood gates, which are well adapted to the purpose. The one above is made from poles of the desired length, woven together with strong wire, which, in turn, is secured to the overhanging pole. As the water rises the poles float upon its surface and do not in the least impede its onward progress. The one given below is more expensive in its construction; it consists in inserting through holes made in the overhanging axle three or more rods or pendants, of sufficient length to reach near the bed of the stream. To these are firmly nailed boards, as shown. The lower ones are close together, which precludes all possibility of its becoming filled or choked up with flood wood or other rubbish that may have gathered in the current. This, like the one made of poles, adapts itself to the surface of the stream. The advantage and superiority of these gates over a permanent structure across swift flowing streams, is obvious to all.



Flood Gate Made of Boards.

To Cure Warts on Horses.—Henry R. Tryon, in the *Rural New-Yorker*, tells us how he cured a large wart on a horse belonging to him:—

"Two years ago I bought a large Clyde colt which had a wart as large as as man's fist on the hind leg, just below the stifle joint. The following remedy I procured from an English horse-farrier, which not only removed the wart, but left the surface smooth, and it haird over. I purchased a two-ounce vial of butter of antimony, and applied it with a feather tied to the end of a long stick three times a day, until satisfied that the roots of the wart were dead, (this can be determined by discontinuing the application for a week; if the wart starts to grow apply more.) After I had thoroughly burned it out in this way, I applied the following to heal it over:—One pint rum, one half-pint soft water, one ounce aloes, one-fouth ounce myrrh; pulverise the aloes, mix and wash. I applied this wash three times a day, and it healed over smooth and nice. Now I have given gratis a remedy which if procured of the horse-farrier would have cost you a five-dollar bill."

STEAM TRANSPORTATION.

Its Influence on Crops and the Value of Land

CHANGES of much importance are taking place in the farming operations of the country. New crops are being introduced, better methods of culture are being adopted, agricultural machinery is being rapidly introduced in great variety, and to an almost unlimited extent. Better stock of all kinds is raised; cheese is made in factories; milk is condensed, and fruits and vegetables are preserved, on a gigantic scale.

Among the causes that are working this transformation, steam transportation is, perhaps, the most important. Our country extends 1500 miles from north to south, and nearly 4000 from east to west; but such are the facilities afforded by steam, that these immense distances can be traversed in a few days, and fruits and vegetables can be transported in a fresh condition from one extremity to the other.

Planting is commenced in Texas and Florida in February and continued through March and April. In Maine and New Hampshire it is commenced in May and continued into June. Early vegetables from Texas and Louisiana can be laid down in the markets of New York and Boston, about the time they are planted in the immediate vicinity of those cities. Thus the season during which green vegetable food is in use, is greatly prolonged. This commerce is to some extent reciprocal. Northern fruits, potatoes and onions are transported in the autumn to the Southern markets. Steamers pass from New Orleans to New York in five or six days; from Savannah and Charleston in three or four, and from Chesapeake Bay in twenty-four hours.

Illinois is about 400 miles in length from north to south. Chicago is supplied with strawberries and early vegetables from Centralia and the southern section of the State, and twenty days earlier than from the Michigan shore of the Lake. And now, excellent pears and grapes from California are found in good condition in the New York market.

Thus by means of steam every section of country participates in whatever advantages of climate exist in every other section. The luxuries of one section are distributed to every other.

Another, and a very important effect of steam transportation is that it equalizes the value of land. Land for agricultural purposes depends for its value upon its market facilities. Now lands one or two hundred miles from the city market are worth as much per acre, as those situated fifteen or twenty miles distant. As you get beyond the limit to which manures from the city stables can be profitably hauled, farming lands assume a nearly uniform value. Improved lands in Ohio, Illinois and Michigan are worth as much as in the interior of Massachusetts and Connecticut. Lands within ten miles of the market to which manures can be teamed from the city, by which double crops can be grown, and from which fresh vegetables and fruits can be daily carried to the market, will always be worth more than lands at a greater distance.

But most kinds of produce, including small fruits and wild berries, milk, poultry and eggs, are daily transported from one to three hundred miles. Green peas, early potatoes and sweet corn are transported by rail two and three hundred miles, and much further by boat. The effect of this is to raise the value of lands in the interior much more rapidly than in the vicinity of the market. And even if the crops of the interior were confined to grain, pork, beef and butter, the greater facilities for marketing these staples would increase the value of the land on which they were produced.

A few years since, the expense of teaming a hundred bushels of corn in Illinois to the nearest shipping town absorbed the whole amount of the sale. A railroad station in the vicinity of a farm quadrupled the value of the crops, and of course the value of the lands.

Steam transportation is causing manufactories to spring up all over the country. These create local markets for all kinds of produce, and of course increase the value of land. At these local markets, the limited demand not calling out so large a supply, the price is often as high or even higher than in the greater city markets. The whole tendency, then, of steam transportation is not only to enlarge the field from which supplies are drawn, but to equalize the value of every part of the field reached by it.

Another effect of steam transportation is that it enables the farmer in the interior to avail himself of any peculiar advantage of his soil or location and select the kind of crop he chooses. Thus the farmers in the interior of New York, in the Seneca Lake country, and on the shores and islands of Lake Erie have special advantages both of soil and temperature for the culture of grapes. The farmers fifty or one hundred miles from the city, in the towns nestled in the sunny nooks on the banks of the North river, ship their thousands of baskets of raspberries and blackberries daily to market. They are no longer confined to staple crops, but may consult the capabilities of their soil or their tastes. They can command the use of artificial manures of various kinds, adapted to the crops they cultivate.

The facilities of steam transportation are rapidly extending the use of agricultural machinery. Improvements in agriculture within the few years past have been greatly due to the use of machinery. Machines are generally bulky and heavy, and their cheap transportation has greatly increased their use. Competition and steam are placing them within the reach of small farmers in every part of the country.

There are many other respects in which the use of steam is influencing the operations of farming, but we have already so extended our remarks that we will mention but one, and that is the extension of improved stock of all kinds throughout the country. It is but a few years since it required weeks of time, and much expense, to drive a few animals to a State Exhibition or to a distant section of the country. Now the annual sales of the breeders of pure blooded Short-horns or Alderneys are attended by breeders from distant States, and their purchases are rapidly and safely transported to their homes. Horses and sheep from Vermont are conveyed to the prairies of the West, and to the plains of Texas, and animals with irreproachable pedigrees are found beyond the Mississippi, and the whole stock of the country is undergoing a rapid amelioration. Suffolks and Chester Whites are sent from Massachusetts to Mississippi. Thus, whatever good qualities are possessed by any variety of stock imported or raised in the country are soon shared by all, and the facilities for transporting beef, mutton, pork and veal to market enable the breeders to realize a profit from their sale. In addition to these direct advantages to agriculture, the international commerce thus produced, serves to unite the people of distant sections, and to nationalize their interests and feelings.

AMERICAN INSTITUTE FAIR.

The managers of the American Institute (New York) exhibition, it will be remembered, made provision for a show of the wool from the sheep of the farmers of the whole country, and invited them to send in samples of fine and coarse, of light and heavy, of short and long wool. We have seen but few notices of this part of the show, and do not know how generally wool growers have exhibited their productions. We fear, however, that the display is not very creditable to this important industry. The *Rural New Yorker* has a notice of the exhibition, which occupies over a column, without a single reference to the wool department. In relation to manufactured goods it says:—

> Walk along these pyramids of woolen, cotton and silk goods. Feel their texture. Listen to those who talk of them. What do you hear? "This sample is very nice." And that is all! They thank no one that our own wool, grown upon our own sheep, the product of our own grass and corn, is spun, colored and woven in our own mills, by machinery made from our own iron and steel by Americans who invented it! And yet it is just the lesson this exhibition is intended to teach, and these the facts it is designed to emphasize! Import goods! No, sir! Import men and skill, rather, to consume in skilful manipulation what our farms, flocks, herds, mines, forests and quarries produce, and prepare the same for our consumption, thus keeping our own wealth circulating in our own country, and exporting only articles upon which no more of our own well compensated labor can be expended.

DIVERSIFIED AGRICULTURE.

At the north, farmers have long practiced a system of mixed husbandry, believing that as far as possible the productions of the farm should supply the wants of the family of the owner. Hence stock and grain, butter and cheese, fruit and vegetables are among the products of nearly every New England farm, whether embracing fifty acres or several hundred. But of late some of our agricultural teachers recommend more attention to specialties. At the South, however, where special crops have long been the rule, and diversified farming the exception, public opinion is setting strongly against the old practice. Notwithstanding that in several kinds of crops, farmers there have enjoyed the advantages of a monopoly, and many circumstances have seemed to favor specialties, the result has been far from satisfactory. A writer in the *Rural Carolinian*, in discoursing on this subject says:

> Whether cotton, wheat, or any other crop, is made a specialty for whole States, failure must result. If proper effort is put forth the market is glutted and the price low, while the cost of everything else will be enhanced many fold by the labor and cupidity of our army of producers and carriers. The old cotton crops, with very few exceptions, never commanded $200,000,000; the present crop, half as large as the largest ever made, is worth more than $150,000,000 in gold to-day, while corn is becoming plenty, wheat increasing, and the people more self-reliant and nearer self-supporting than ever before.
>
> While cotton may ever be a prominent crop, it should only be cultivated as *one* of several products for exportation, and an ample sufficiency of everything consumed upon the farm should be grown at home. The idea that Southern horses should be obtained in Kentucky, flour from Missouri, and part of the corn supply from Illinois, has been a curse to the cotton States. Specious and false was the theory of reciprocity of material interests; it never can be profitable to carry bulky agricultural products a thousand miles, to be used on soils as rich and cheap as any in the world, at an expense for transportation far exceeding the cost of production at the place of consumption. The variety of which this region is capable is truly wonderful; embracing all the cereals, grasses, vegetables, and fruits of the temperate zone, with many of the productions of the tropics. A belt extending from twenty-five degrees to thirty-nine degrees north latitude, including a range of elevations amounting to 6000 feet, and geological formations from the primitive granite to alluvium now in the process of deposition, cannot become a wealthy region by persistence in the culture of a single product.

For the New England Farmer.

FARMING IN LEXINGTON, MASS.

Rosedale Farm.—Home-made and Commercial Manures.—Salt and Lime with Muck—Wheat and Oats.—Improvement of an old Wet Meadow.

In introducing myself as an "Old Young Farmer," it may be proper for me to say that I was raised in the interior of New Hampshire, and worked on the old homestead until I was seventeen years old; that I then spent forty years in business in Boston, and have recently bought and moved on to a farm in Lexington, Mass., of one hundred acres. Consequently, though I am old in years, as I look over my fields and attempt to decide on definite plans for their management and improvement, I find I am a *young farmer*, and need the counsel of those more experienced in farming, though perhaps younger in years. That this counsel may be given intelligently, I will attempt to draw up a description of my farm, and give some idea of what I wish to accomplish. The one hundred acres comprise a great variety of soil. While a large part of my farm consists of a light sandy land, there is considerable heavy loam of good quality, and not a little wet muck meadow. A brook passes through the farm, forming a valley some twenty-five feet below the table land, with several acres of rich intervale skirting the stream. From the banks of this valley several springs issue, and here I wish to cultivate trout. In this valley and near my house, there is a mineral spring strongly impregnated with sulphur and iron. Having been an invalid for ten years, I have realized more benefit from the use of this water for the last month or two than from all the medicine I have ever taken. This whole region appears to be filled with iron.

My barn is situated on the bank of this valley, the front part being level with the main land, and rear sixteen feet above the ground. This basement is divided into two stories; about one-half of the first floor being above ground, and one-fourth of the lower. The first floor or story is occupied by stables for my stock, and the lower is devoted to hogs, and ordinary basement purposes. Both are well lighted and ventilated, and face the south. All the manure from the stock passes below for the swine to work over. A six-inch drain pipe leads from the water closets in the house to the lower part of the barn, where it is absorbed by muck which is daily applied for this purpose.

In the rear of my barn, and within a hundred feet of it, there is an extensive bed of rich muck. From the teachings of the New England Farmer, and from that of my own experience, I place a high estimate upon the value of this deposit. During the past season I have experimented with several of the commercial manures on different crops, side by side with my home-made manures, and in every case the latter has proved far superior to the dear-bought, far-fetched, and much puffed fertilizers. I believe farmers are terribly humbugged by the great noise made by the manufacturers of artificial manures, and am well satisfied that I can manufacture manure that will give better satisfaction at far less than half the cost of the commercial articles, and believe every other farmer can also.

I am now getting out muck for another year's use, and as I intend to make a large pile of manure, I wish to be informed whether lime, salt or any other substance can be economically mixed with the muck,—will it help enough to pay expenses?. Manure I find to be the great secret of successful farming, but still most of us must study economy in the cost of our fertilizers.

I was told when I commenced farming this spring, that it was no use to undertake to raise wheat. I replied that I was going to try it on a small scale to satisfy myself, as I believed wheat could be raised here as well as in other places. I procured half a bushel of spring wheat and sowed it on about half an acre of rich soil that had been well manured and planted for two or three years. I put on the land about a bushel of salt and about two bushels of lime. The result is that I have raised as handsome a piece of wheat as can be found in New England. It filled out and ripened well, but as I have not threshed it yet, I cannot give the precise amount of the crop. It is estimated at from twelve to fifteen bushels. All who have seen it were much surprised as I believe there has been but very little if any raised in this vicinity for many years. I have no doubt it was thought a great piece of presumption for a green farmer like me to undertake to raise wheat. Many of my neighbors had about as little faith in raising oats as in raising wheat. They said that oats generally mildewed and musted so that it seldom filled out or ripened; and hence they cut them green for fodder. But I determined to try them, and the consequence was that I had about two acres of very handsome oats well filled out and well ripened.

I have a reclaimed meadow of five or six acres that formerly produced a heavy crop of good grass; but it has been neglected until it has grown up to a coarse, wiry grass, and is becoming filled with hassocks. A small brook runs through it. The old ditches have been neglected for years, and had become filled up. I am having them cleared out, but fear that will not bring it into good condition without ploughing, which must be a hard job. Can you give me any information on the subject? There are many other questions that I should like to ask, but I have scribbled so much already that I fear you will throw it all into the waste basket. If you should not, you may hear again from

AN OLD YOUNG FARMER.

Rosedale Farm, Lexington, Mass., Sept., 1869.

For the New England Farmer.

GEN. BUTLER'S SPEECH.

Gen. Butler in his speech before the Agricultural Society at Worcester, has called attention to important matters, affecting not only the Agriculturist but all classes in the community as well. There is a tendency not only in individuals, but in classes, to make use of public institutions and legislative authority to advance their own special interests. This is shown by the fact which he mentions, that a large part of the last session of our Legislature was occupied by special legislation. The same thing is shown by the conflicts between private interests in the Legislatures of all the States, and in Congress also.

The various "rings" that are formed, and the immense sums that are paid and used, not without suspicion of indirect influence, afford abundant evidence that regard to private interest, rather than public good, is the cause of the persistent pressure brought to bear upon legislation.

In our own State, an immense capital is invested in manufactures. Our prosperity as a State depends very much upon their success. But this is no reason why other interests should be sacrificed to the interests of manufactures. There is surely no reason why the interests of agriculture, which is the basis of all national prosperity, should be sacrificed to any other interests.

We have had, and now have, some striking illustrations of the fact that the interests of the farmers of our Commonwealth weigh but little in our Legislature in comparison with the interests represented by large and combined capital. There is now in the centre of Middlesex County a large tract of land, embracing thousand of acres of the best land in the county, almost entirely ruined, to enable a comparatively small manufacturing establishment to save the difference between the cost of running their works by water power and steam power. The same fact exists in Norfolk County and in various other places in the State.

A law was enacted a few years since, requiring a certain dam to be reduced for the benefit of a large number of farmers.. The very next year, manufacturing capital combined and procured the repeal of the law, lest other dams should be reduced in the interest of agriculture.

But we fear that there is a disposition not only to make use of legislation to promote private interests, but also to make use of public institutions to advance private ends. There are indications that some of our Agricultural Societies, which are sustained by a tax upon the whole community, are falling out of the control of the farmers into the hands of "fancy men" and "specialists," who use them to promote their own special purposes. We have noticed that owners of fast horses offer premiums to be awarded through the committees of County Societies for the best colts sired by such horses, which looks to us very much like using these institutions to advertise their horses, and put money in their own pockets. Herds of fancy stocks, bred with reference to high prices, and fixed up for show, occupy conspicuous positions at our cattle fairs, and carry off a large share of the premiums, under the pretence of promoting the public good, to the disgust of the plain farmers who too often find their claims entirely overlooked. So, too, nursery men and inventors are not satisfied with making these occasions means of advertising their wares, but claim the premiums as well. There is no doubt that many patriotic and public spirited men have imported stock and fruits from regard to the public good; but surely at the present day, there is no need of taxing the community to reward those who do it for the special purpose of making money by the operation.

The man who imports the best leather, or the best woolen cloth, or the best silk goods, may with equal justice claim a premium on his importation, on the ground that it tends to improve our own manufactures. It undoubtedly has this tendency, by exhibiting the best models, and compelling our manufacturers to greater exertions in these directions. But the day has gone by, for taxing the community for such a purpose. Self interest is a sufficient inducement. Indeed this is the moving power in most of the so-called public enterprises of the day.

Charters are granted for rail-roads, and their stocks are guaranteed by Congress and State Legislatures, on the plea that they promote the public good, and they doutless do promote the public good to a certain extent. But the motives underlying them, are to enable individuals to speculate in lands, and to enrich themselves by exorbitant freight charges at the expense of the laboring classes. This last evil has become a grievious oppression to the whole nation, and will require a remedy in national legislation. Farmers are generally men of small capitals. These capitals have not been and cannot be combined for self-defence—and there would be no occasion for such combination, were not accumulated capital, employed for other purposes, allowed to override and oppress the interests of agriculture.

Excessive legislation may become oppressive, and when it is employed to promote the interests of individuals and classes, at the expense of the community, it has already becomean oppressive burden, calling loudly for a remedy. Although Gen. Butler, in the speech referred to, said some things which we cannot fully endorse and some things which we think unwise, yet on the whole, we thank him for the bold words which he has uttered, and we trust they will prove good seed on good ground. R.

Concord, Mass., Oct., 1869.

For the New England Farmer.

WHITE DOYENNE, OR ST. MICHAEL.

It has long been asserted, and was recently by the honorable President of the American Pomological Society, that the above pear had become worthless, and probably would continue to be so. I feel a great diffidence in questioning anything emanating from so high authority; yet I think the St. Michael is destined to bless the coming generations as it has the past.

I have been cultivating the pear for a few years on a small scale. I have twenty-eight varieties of trees; fifteen varieties have fruited, and I rank the St. Michael among the best. There are several so excellent in tree and fruit that I don't know which to call first.

I have one tree of this kind, about eighteen years old from the seed, which commenced to bear when very small, and has borne full every year since. The fruit is of good size and always fair, and as juicy and delicious as those I ate at my uncle's, in old Newbury, fifty years ago, and I have never seen a pear cracked or unhealthy. I have now one and a half bushels which grew on that tree which will compare well with the same pear fifty years ago, though some of them are smaller than they should be, for I did not thin them as much as I ought.

About eighteen years ago I set sixty pear trees on a piece of ground where I had raised corn two years previous, with a light dressing of barn manure each year. The trees did very well for one or two years, and then began to be sickly, the limbs dying and some of the trees dying nearly to the ground, and it went on from bad to worse till every tree was dead. Several of my neighbors and acquaintances had a like experience. I was somewhat discouraged, but not willing to give it up. I set more trees than I had before, and then went to work to make a soil for their proper nourishment. I concluded to follow the teaching of Nature, and enrich my land by top-dressing and mulching with wood and leaves. The result has been that every tree that I have treated liberally in that way has done all that I could wish, though my land is in a valley where the original growth was mostly hemlock and spruce, which is unfavorable for fruit raising. My trees are all on greensward and most of them overrun with witch grass. I prune in the fall and winter.

STEPHEN ADAMS.

West Newfield, Me., Oct. 15, 1869.

For the New England Farmer.

GEN. BUTLER'S ADDRESS.

On taking up one of my papers, I saw in large type, "Address of Gen. B. F. Butler, before the Worcester Agricultural Society, September 23d, 1869." And holding Gen. Butler's ability in very high esteem, I naturally said to myself, here is a treat; here will be something new. I found something new, indeed, but altogether of a different character from what I expected. Our agricultural orators generally try to create and strengthen sympathy between employees and the employed, and to show that their interests are one. But it appears that a large part of the General's address, rather tends to create dissatisfaction among the hired portion of our laborers,—(I was about to say laboring classes; but, Mr. Editor, we are all laborers.)

Was it the desire of the speaker to create such antagonism between labor and capital as exists in Ireland? What has this antagonism done for Ireland? It has almost entirely driven out capital, and destroyed manufacturing in that country, and agriculture has gone down with them, until a large portion of the inhabitants are obliged to emigrate or starve.

The General, speaking of inventions, says, that while a great deal has been done for the manufacturer, very little has been done for the farmer; so little, in fact, that he enumerates them at once: "The reaper, mower, thresher and rake, with some improvements on the cultivator." We are told that the plough, shovel and hoe, are the same as our fathers used, and we must sweat as our fathers did in using them. This assertion, I think, will rather astonish some of our farmers and agricultural implement dealers. Before he delivers another address on agriculture, it would be well for him to step into some agricultural warehouse, if he has not time to visit our farms, and examine the gang ploughs, which turn some half dozen furrows at a time, while the operator rides in a cushioned spring seat, simply guiding his team; or the single steel ploughs of recent invention, and see if there has not been some improvement over the ploughs our fathers used.

If he is not satisfied, I should like to plough with him at the next Cattle Fair; he to have the old plough that his father used, and I to have my choice of modern ploughs, and see who will get the premium. As to the sweat, I venture the assertion that if the holder of the old plough don't sweat as much as the holder of the new one, the *team* that draws the old plough will sweat enough more to make up the difference.

I think it would be well for the General to look at the tedders, which enable the farmer to shake up and turn his hay more expeditiously than ten men could do it, and in a better manner, while all the operator has to do is to sit in a very comfortable seat and guide the horse; then examine the corn planter, which plants from two to six acres per day, the operator riding in a comfortable manner, and supplying the hopper with corn; the horse-hoes, effecting a great saving of labor; the feed cutters, the corn shellers, the stone diggers, stump pullers, ditching machines, grain drills, horse powers, which enable the farmer to saw his wood, cut the feed for his cattle, turn his grind stone, churn his cream, pump his water, &c. But for these and other improved implements and machines which have been introduced upon the farm, the soldiers in our late army, and the consumers now in our cities and villages, could not be fed.

The speaker further remarked that no improvement has been introduced upon the farm that would cause one spear of grass or one blade of corn to grow where it was not before This will be news to some of our intelligent farmers; especially to those on farms where twenty years ago not five tons of English hay were grown, but which now produce fifty tons, the land being cultivated by these new improved implements, while the farmers put in practice the true science of cultivating and dressing the land. CANDOR.

—A small amount of lime mixed with wheat that has acquired a musty smell by having been slightly heated, will sweeten without injuring the wheat.

WOOL AND WOOLEN GOODS.

There was a gathering of the wool and woolen interests at the exhibition of the American Institute in New York last week, at which Hon. E. B. Bigelow, President of the National Wool Manufacturers' Association, delivered an address embodying the following facts:

The annual value of the wool manufactures in the United States, and of those manufactures of which wool is a component part, is not less than $175,000,000. Of these goods, more than four-fifths are made from American wools. The coarse carpet wools, which are not grown here at all, the worsted combing wools and the fine clothing wools which are grown by us only in limited quantities, go to make up the rest.

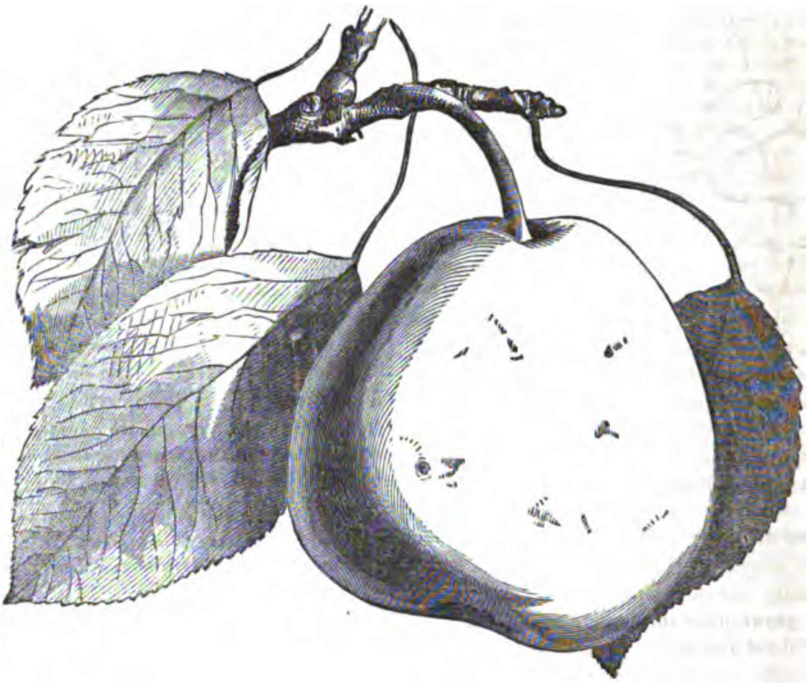
A great advance has been made in woolen manufactures in a comparatively short time. Ten years ago we attempted scarcely anything beyond common goods of the coarser kind. Now we manufacture almost every variety of woolen fabrics in general use. The annual consumption of woolen goods in the Union amounts in round numbers to $240,000,000—of which $65,000,000 is imported and $175,000,000 is of domestic manufacture.

The condition of our wool industry in 1868, as compared with the years 1850 and 1860, is shown by the following tabular statement:

	1850.	1860.	1868.
ITEMS.	Lbs.	Lbs.	Lbs.
Pounds of Wool grown,	52,516,959	60,511,848	177,000,000
	Dollars.	Dollars.	Dollars.
Value of wool imported,	1,681,691	4,842,152	3,915,262
Value of Wool manufactures imported,	17,151,509	37,937,190	32,469,759
Value of Domestic Wool manufactures,	45,281,764	63,865,963	175,000,000

This shows conclusively that it is not by the importation of foreign goods that our market for wool and woolens is depressed, the value of imported woolens for 1868 being five and a half millions of dollars less than it was for 1869. Most evidently the great cause of the present depression is excessive home production of one kind of merino wool. As to the present tariff on wool and woolen goods, Mr. Bigelow stated:

"It was at a conference of leading manufacturers and growers of wool from all parts of the United States, and after full consideration and discussion, that the principle which underlies our present tariff on wools and woolens was unanimously adopted. It is, in fact, only a clearer and stronger expression of the idea on which the (so-called) Morrill Tariff of 1861 was partly based. It aims to give equal protection to him who raises and him who works up the raw material. It tends directly to reconcile great interests, which had been falsely regarded as antagonistic. Unless these views are fallacious, it is just as much the duty of a nation to protect its own industry against the injurious effects of foreign competition as it is to provide the means of defending its soil and its homes against the aggressions of open war."—*Ohio Farmer.*



THE OLD ST. MICHAEL, OR WHITE DOYENNE PEAR.

In connection with the hopeful view taken by a correspondent, on another page, of the possibility of producing this favorite old pear in New England, we present above an illustration of its fruit.

At the Fair of the Norfolk county, (Mass.,) agricultural society, at Readville, last September, some beautiful specimens of the St. Michael, raised in California from scions obtained of Hon. Marshall P. Wilder, were exhibited, and tested by the Committee of the fruit growers of that county. Col. Wilder and other judges pronounced the flavor equal to that of the fruit raised here when the St. Michael was in its glory; while all present agreed that by no skill in cultivation and training could it now be raised in that section, with even a fair degree of perfection.

That the variety is not in its dotage, or run-out, as many have supposed, would seem to be proved by its vigorous growth, beauty and perfection on the Pacific coast, and on the grounds of our correspondent.

Though of French origin, this pear is popular in England, where it is known by different names in different sections. In the region about Boston it is called the St. Michael; in New York, the Virgalieu; in Pennsylvania, the Butter Pear, &c. This confusion in names attests to the wide popularity of the fruit.

Mr. Cole describes the fruit as "rather large; obvate; clear pale yellow, with small dots; a red cheek full in the sun; stalk an inch long, stout, in a small cavity; calyx small, in a shallow, finely plaited basin; flesh white, fine texture, melting, very buttery, of a rich, high, delicious flavor. Oct. and into Nov. Many regard this pear as a standard of excellence; many others prefer the Seckel. It is perfectly hardy in tree and fruit, and first rate in quality in the Middle and Western States, in Western New York, and in the region of Baltimore; but it generally blasts and cracks in New England, on the sea-coast, yet it still flourishes in the interior. Where uncertain, it does better on the quince.

A GOOD FARM MAKES GOOD STOCK.

Some one has said "the character of the stock on a farm depends essentially upon the cultivation and condition of the soil." Grass is not only the natural food but the best food for stock. The better the grass, the more nourishment does it contain. When grass is coarse and sour and full of weeds, a great quantity of it must be consumed to obtain a little nutriment. The animal must go through the labor of digesting a large bulk to gain a small result; whereas if the grass is sweet and free from all foreign admixtures, the nourishment is concentrated, and a small quantity of it contains more nutriment than can be extracted from a large amount of bushes and weeds.

The success of the breeders of good stock generally depends upon the quality of the grass grown upon the farm, quite as much as upon blood and skill. A gentleman purchased a fine cow, remarkable for the quantity and quality of her milk, and took her to his home, where she soon fell off in the quantity of her product. When he complained that she did not sustain her reputation, her former owner replied, "When I sold you my cow, I did not sell you my pastures."

When we read in the papers accounts of the sale to the butcher of fine three-year-old steers, or two-year-old heifers, at a high price, we consider it evidence not only of good blood, possessing early fattening qualities, but also of good soil, well cultivated. The Johnsons, the Lathrops, the Chenerys, the Morrisses and other celebrated breeders, all raise good hay, on a clean soil, and cut it and put it into their barns while it still retains the qualities of grass.

Fifteen or twenty pounds of butter a week, not only prove the superior character of a cow, but also that she is kept on a good soil, well cultivated. For we hold it impossible to bring a cow up to the condition in which she will yield such an amount by any other means.

Grain may be given for a short time to finish off a fattening animal, but it will not secure the necessary conditions of health and growth. These can be obtained only by good grass and hay. So when a cow has been brought up to the condition in which she will yield a large quantity of butter by good grass and hay, the quantity may be increased by corn and oil meal for a short time, but this forcing process cannot be continued with safety.

Farmers have a lesson to learn in these respects. Experience and observation are the best teachers.

If a farmer wishes to keep or breed first rate stock he must begin by putting his pastures and mowing fields in first rate condition. It is a waste of capital to buy expensive animals and undertake to keep them upon poor pastures or poor hay. To attempt to make up the difference by feeding upon grain will take off all the profit, and the animals will inevitably deteriorate. There is no food that can be profitably substituted, in the long run, for grass and hay. Feeding upon large quantities of coarse food will injure their forms and change their characters. Feeding largely upon grain and concentrated food will injure their health and capacity for breeding. Milch cows fed chiefly upon good grass and hay will often do good service till they are twelve or sixteen years old. The cows in the city stables rarely last through the second year, fed as they are upon brewers' grain, and distillery-house slop.

A well-drained, well-worked soil will make good hay, and no other soil will do it. Until, then, the soil is in this condition, the best results, either in dairy products or in beef, cannot be reached.

The Small Fruit Business.—Instances in which great profits have been made under favorable circumstances by raising small fruits, berries, and other special crops, have often been published. Strawberries, raspberries, blackberries have paid from two to six hundred dollars per acre per year. New Jersey and the Western part of Michigan are localities of which great stories have been told. P. S. Linderman of South Haven, Mich., presents a view of the other side of the subject in the *Western Rural.* He shipped 12 crates, 192 quarts of Lawtons to Chicago. Freights, truckage, commission and crates cost $7.55; the berries sold for $12 64; leaving $5.09, or 2 cts. 6½ mills per quart for picking, shipping, postage, &c., to say nothing of raising, capital invested, &c. He tried a patch of strawberries, but had ploughed them up. One of his neighbors had one and one-half acres; he tried them two years and has ploughed up most of them. His only object, he says, in confessing these failures is to caution those not acquainted with the berry business to "make haste slowly," in entering upon the business of raising them for market.

A New Jersey correspondent of the *Gardeners' Monthly*, who has been experimenting on "Ten Acres Enough," sent several chests of strawberries to the Philadelphia market one day last season, for which he paid three cents a quart for picking. They were sold by his commission man for four cents a quart.

THE LABOR QUESTION IN KENTUCKY.

A report of the discussions at the weekly meetings of the Lexington, Ky., Farmers' Club has been published in the *Farmers' Home Journal* of that place for two or three years past. From the character of the discussions reported, as well as from the honorary titles of most of the members, we presume that the Club is composed of the leading men of the section.

The subject of labor, as might reasonably be expected from the great change which has been effected in the relation of the employer and those employed in agriculture by the abolition of slavery, has been a leading topic both of dissertation and of debate by this Club.

Very different opinions as to the effects of this revolution have been expressed; a great many plans have been proposed for the management of the labor that is now available, and numerous suggestions have been made for obtaining other labor.

Of late, the attention of the Club has been directed to the question of Chinese emigration. This is earnestly advocated by some and opposed by others. A plan for the combination of farmers interested in securing a large importation of Chinese laborers has been considered by the Club. At a late meeting, Col. Haden, as reported in the *Home Journal*, said that,

> He had had superior opportunities for informing himself in regard to the capacities of the Chinese. They are available now and are readily controlled, an important consideration in deciding upon the value of laborers. They will adapt themselves to our wants and be contented and faithful to their employers.

Mr. R. W. Scott also favored their introduction, but remarked:—

> The Irishman or Scotchman, who comes here as a day laborer, will in a few years, by economy and thrift, improve his condition and be employing laborers to do his own work. They make it their permanent home. But this is not the case with Chinese. They will come here to avail themselves of the high wages and to make money, not to spend it here or to remain permanently, but always with the intention of returning to the Celestial empire, as they term China. They will come here merely to make something to enjoy on their return, for in their belief, Heaven can never be reached unless the soul starts from the Celestial Kingdom, hence a Chinaman will go back to his native country with his earnings if he is alive, but if he dies, his dead body is returned. Thus a constant drain will be kept up on the resources of our country. With European laborers, the accumulated means will be devoted to the acquisition of land, improvements or otherwise expended here.
>
> Judge Kinkead was at first inclined to view favorably the proposition to introduce Chinese labor here, but the information he had been enabled to gather since, had awakened doubts as to its advisability.
>
> Dr. R. J. Spurr did not fear any injury to our people from coming in contact with these heathens, but on the contrary, is of the opinion that the influences to which the Chinese will be subjected here in our country, will be beneficial in the highest degree to them.
>
> Dr. Gay opposed the combination plan. As to the value of Chinese labor, he knew nothing personally, but from conversations recently with those who have tried it, he was induced to believe that it would prove entirely satisfactory to our people. The mountain counties of our own State had hundreds of stout, industrious young men who would make reliable skilful laborers.
>
> Squire Oldham thought it was utterly impossible for our farmers to enter into any combination that would prove effective. When slavery was abolished, he told his negroes they were free; then designating such as he wanted to retain, he informed them he would give them one dollar per day when they worked faithfully, but that they must provide themselves with food, clothes and all other necessaries. He has never had any trouble, and is convinced that fair wages, kind, considerate treatment and just dealing, will enable a farmer to engage as many good laborers as he wants, who will remain faithful to all their contracts. Proper treatment will make many negroes useful and reliable, who are now regarded as worthless. They can be controlled by the same influences that are potent with the white man; place the proper inducements before the freedmen, stimulate their sense of manhood, and make them feel that they are indeed free, and with the inculcation of such feelings they will prove more useful and more worthy of our confidence. There are trifling negroes through the country imposing on farmers and bringing reproach on the race; he would be glad to see this worthless class restrained and punished, but it is neither liberal nor just to condemn all for the unfaithfulness of a comparatively small number. He expressed the opinion, in reply to a question, that labor was as cheap now, here in Kentucky, if not cheaper than in adjoining States. He may pay his hands now a little more than he did in the days of slavery, but taking into consideration the numerous expenses he was subject to at that day, he thought his labor cost him no more now than it did then. In reply to a question by Judge Kinkead, Mr. Oldham said that in his opinion, the laborers now in our midst and young men and boys of our State, constituted our main dependence, the source to which we must look for the supply of labor we need. He believed it was in the power of our people by judicious action, to procure all the laborers required to conduct our agricultural operations.
>
> Mr. P. H. Thompson said that he had experienced no difficulty whatever in procuring reliable industrious laborers. He pays men $12 a month and women without children $6 or $7 per month, and thinks they cannot support themselves on less. He tells them when he engages them, that they must work faithfully, without being watched, and obey orders; treating them fairly and paying

them living wages. They seem to be content, work faithfully and fill all their contracts; he furnishes them quarters on his place and has not suffered from dishonesty; his water-melon patch was exposed and accessible to all, but he gave his hands what they needed for their own use, and he does not know that anything was stolen. The greater portion of his farm he has put out on shares, furnishing implements, stock and feed for stock, and receives two-thirds of the crops as his share. He thinks that labor is cheaper now than it was during slavery—that is, it cost more formerly to work a farm, to support the negro and keep the sick and ineffective hands than it now does to hire the labor. He has been troubled occasionally to procure female servants, owing to their disposition to congregate in the cities. In this, however, he has not experienced the difficulty that others complain of. Give them enough to live on, and let them understand that they must work as faithfully when by themselves as when the employer is present. He thinks that they prefer the farmer to give the farm his personal supervision and to direct them himself.

Mr. M. T. Scott was equally as fortunate as Mr. Thompson, and can get all the effective labor he wants, paying hands $15 to $18 per month, boarding them also, and when engaged by the day, giving $1 to $1.25, and also their dinner. Negroes now-a-days are more slippery than they once were, and they are for the most part too much inclined to "pick up little things,"—potatoes, coal, &c. They do not regard this as stealing, when they take it to eat or to use in their families. He has never had a hand to violate his contract; they are made to understand that their situation is contingent on their good behavior.

In such expressions, however, the Club is by no means unanimous. Others represent the colored freedmen as unreliable and thievish, and insist that the legislature of the State should adopt some means to remedy the evils of which farmers complain.

We will close this article with some most encouraging and hopeful utterances of the editor of that excellent journal above-mentioned—the *Farmers' Home Journal*—and in doing so we take the liberty of printing them as our own sentiments:—

"Farming must be profitable in Kentucky or the number anxious to engage in it would be much smaller than it is, and our lands would not command the high price they always bring when they are offered. Farms sell for from $60 to $125 per acre, but $75 would, perhaps, be regarded as a fair average. Then everything that is raised, whether it be grain, live stock, or any other product, sells readily and at remunerative prices. The lands yield as largely as those in any other section, and horses, cattle and other animals cannot be more advantageously fed in any State. Home markets are always open, and dealers here are anxious to pay the highest rates, but if distant markets are preferred they can be easily reached.

"Just now the disorganization of our labor system renders farming more laborious and hazardous than it has ever been before, but even at this time it yields as fair a percentage as many other occupations, and despite the serious aggravating evils of which farmers justly complain, some of them have stated publicly that they are doing as well as they did when slavery existed. Energy, continued application, industry and thrift will work out profitable results now as well as they ever did.

"The passions and prejudices born during the fearful internecine struggle have been permitted to estrange the people of a common country too long. Let us strive to be forbearing, considerate and generous, and thus, while encouraging the nobler feelings of our nature, let us, whenever opportunity offers, work together to repair the ravages of the past. We are one people, and the prosperity of Georgia will be felt by its quickening influence in Kentucky and New York. When farmers, miners, manufacturers and machinists develop the vast resources of the South, its augmented wealth and power will benefit every other section. For a long time now the Southern people have been manfully struggling against accumulating misfortunes that would have utterly prostrated any other nation, but patient, industrious and enterprising, they have calmly waited their time, and now, soon they trust, they will be gladdened by the dawn of a more glorious prosperity than that which went down before the tide of war.

"The people of the South are now in a far better condition than they have been at any time since the commencement of the late disastrous struggle. The gratifying evidences of this improved condition will soon be manifest, in the quickening of business of all kinds, the removal of the sad traces of war and neglect, and the indications of enterprise and activity everywhere. In New Orleans, it is stated, that the people there confidently expect to do the largest business for many years. Already buyers from the South and Southwest are in the New York market making liberal purchases, to the extent of double the amount of last year."

—Fruit lands in the vicinity of St. Joseph and Benton Harbor, Mich., are sold at from three to five hundred dollars per acre, and some have been held as high as $1000.

For the New England Farmer.

BRAINS IN FARMING.—No. 3.

Mr. Editor:—Perhaps you and some of your readers will think that Uncle John is in danger of running *brains* into the ground. If so, I would just say, that there is no danger at all on that score. Indeed, that is the very thing I have been trying to do on my own farm, and in these articles.

I don't know whether Bradley's Superphosphate pays or not, never having tried it; but I do know that the *superphosphate of brains* pays bountifully. I have tried it on my twenty-acre farm, and the result has been, that I have doubled my crops. Could I get enough of this fertilizer, I could make farming a magnificent success.

But the trouble is, I am *short*, and this is an article not to be had in this market.

I have been looking round among our Vermont farmers some, to see what indications I could find of the practical use of *brains* in agricultural operations, and I discover some singular contrasts.

In the town of Richmond, in this county, there is a dairy farmer, E. D. Mason, Esq., who owns a fine farm on the Winooki River. He milks from seventy-five to one hundred cows. His milking yard is so located that all the wash therefrom runs down on to a hundred acre meadow, and enriches several acres to the highest degree. These are sowed to mangolds, carrots, and Western corn, which afford an immense amount of feed for his cows.

In another town is a fine farm,—I will not mention the owner's name,—with nice buildings; soil of the first rate quality, but the crops indicating that not one-fourth of its capabilities were developed. Passing along, on the lookout for indications that *brains* were used by this farmer, in the management of his farm, judge of my surprise, when I came in sight of his milking yards, in which I counted some thirty cows, to find it located on descending ground, where all the wash ran into a slough-hole by the road-side, and from thence into a small stream near by. Surely, thought I, brains must be at a discount with this farmer.

One of my neighbors has taken up Mr. Beecher's method of killing Canada thistles; that is, to cultivate them as a crop, and endeavor to make money out of them. He has a splendid crop. They show no signs of giving in, notwithstanding Mr. B.'s prediction that the rust would strike them, worms would gnaw them, bugs would bite them, &c., &c. My neighbor tells me that I may inform you that he will soon be ready to supply the trade with seed for another season, at a very reasonable price. So that all farmers who wish to cultivate this magnificent *posy*, can be accommodated.

In one of my communications to the Farmer, I spoke of the wasteful practice of stacking hay, which prevails through all this section. I have been expecting some of my neighbors would be down on me, with the exclamation:—"Physician, heal thyself," or, "O, consistency, thou art a jewel!" for I have been under the necessity of stacking some of my hay, this season. The fact is, Mr. Editor, that the application of *brains* to my land causes my crops to increase in undue proportion to the size of my barn, and if I keep my place, I shall have to apply a few *brains* in that direction.

It is a matter of no little surprise to me that these Vermont farmers, who are so sharp to discover a *dollar* whenever one turns up, *cannot*, or *do* not, notice the inconsistencies of some writers for the agricultural papers. They seem to take the thing very cooly, as if it were a mere matter of course. More anon.

Uncle John.

Charlotte, Chittenden Co., Vt., Oct. 5, 1869.

PREPARING FLOCKS FOR WINTER.

Selection. — The time has arrived for "drafting" flocks of sheep—*i. e.*, picking out those which it is not desirable to winter—where that process has not been already performed. The best time to do this was at shearing, when every fleece could be properly examined, but it is indispensable now. Under the present circumstances the selection should be rigorous, especially in flocks kept on the high-priced lands. Take out those old enough to be broken mouthed, the weakly young, every one known to be a poor breeder, every one defective in form, fleece or constitution. With fine wool at forty cents a pound, it will not pay to winter such sheep on the good lands of New York, Ohio, &c. It is better to sell them at the price of their pelts than to keep them.

Coupling.—Let no very old Merino ewes, and none younger than three, have lambs next spring. The stock rams should be as carefully selected as ever; for improvement is all the profit that can now be made on sheep in the old sheep growing regions of the Union. It costs no more to keep a good sheep than a poor one; the former produces more now, and it will be greatly more valuable when fine wool husbandry revives. (That it will revive, if the present wool and woolen tariff stands, we anticipate as confidently as we do that men will continue to wear woolen clothing.) It is a good time now again to commence treating stock rams more rationally than they have been treated for the last few years. Instead of enormously high keep, an enormous amount of work and close confinement, let us give them moderate keep, moderate work and their liberty.

Let us give our breeding ewes, too, such feed as will keep them hearty, plump and strong, but not fat, as a butcher would understand the word; and let us not only give them liberty but require them, by some means or other, to take daily exercise, after they are brought into winter quarters. We do not entertain a shadow of doubt that the weakness of lambs at birth, their want of constitution, and many of their modern diseases, are in a great measure due to the pampering and close confinement of their sires and dams, the former during coupling and other portions of the season, the latter more especially during pregnancy. And we have just as little doubt that if the same causes are kept in operation from generation to generation, the stock so treated will gradually become permanently depreciated in the health and hardiness natural to the Merino race.

Winter Feed.—While we strenuously protest, as we always have done, against pampering, we recommend no high feeder to rush precipitately into the opposite extreme. As we have already said, keep the sheep plump and strong. But to accomplish this, sheep that have been habitually pampered require more and better feed than those which have been unused to high keeping. Two Arabs accustomed to the short fare of their deserts would subsist on an amount of nutriment on which a previously well fed Englishman would starve. Sheep, in like manner, become accommodated to circumstances; and the kind and even the amount of nutriment they demand is to a considerable extent regulated by habit.

We have seen healthy and thriving flocks of Merinos which were kept every winter on straw of all the kinds furnished on the farm, and a very moderate amount of grain. Sheep that have had a full supply of good hay with a liberal supply of grain, or grain and roots, would dwindle and run down on hay alone, or on straw with an equal amount of grain.

Fine, early cut and greenly cured hay, ought, so far as sustenance is concerned, to support any flock of grown-up Merinos without any addition of grain or roots; though it would be better, so far as health is concerned, to exchange a portion of it for a nutritive equivalent in some kind of green feed, especially in the case of breeding ewes. The amount of such hay that a sheep will eat up clean we regard as the normal and most profitable measure of nutriment to supply it with when kept for breeding and growing wool. But it does not necessarily follow that it can be most profitably kept on this food exclusively.

Keeping Sheep in Show Condition.—This includes pampering usually, and housing from rain and snow in all cases. The object of the latter is well understood. It preserves the yolk in the wool, thus vastly increasing its "unwashed" weight; and it gives the dark exterior color to the sheep so highly prized by the two extremes—fancy breeders and greenhorns. It is of no utility to the wool. It probably does not increase its quantity or quality—at least to any sensible extent. It is of no benefit to the sheep. If kept up year after year, it must necessarily render them less capable of withstanding those exposures which all sheep must incur in the ordinary mode of treatment, and which ought to be innocuous to them. We desire to speak with all kindness on this head, for we know that a large proportion of the best breeders, and of the best men engaged in breeding sheep, countenance the practice. We know, moreover, that it is no more artificial and injurious than various fitting processes applied to other kinds of stock by breeders of character. Being known and avowed, it is no fraud. But what really sound and sensible reason can be given for it, and for incurring the trouble and expense of it, (no small items,) unless it is to enable one breeder to get the advantage of another who does not fit his sheep but who sells as good or better stock in every respect? —*Dr. Randall, in Rural New Yorker.*

THE WAY TO BLANKET HORSES.

But few persons comparatively understand how to apply a blanket to a horse to prevent him from contracting a cold. We frequently see the blanket folded double across the rump and part of the animal's back, leaving those parts of the body which need protection entirely exposed to the cold.

Those parts of the body of a horse which surround the lungs require the benefit of a blanket, in preference to the flanks and rump. When we are exposed to a current of cold air, to guard against any injury from contracting cold, we shield our shoulders, neck, chest and back. If these parts be protected, the lower part of the body will endure a degree of cold far more intense, without any injury to the body, than if the lungs were not kept warm with suitable covering. The same thing holds good in the protection of horses. The blanket should cover the neck, withers and shoulders, and brought around the breast and buttoned or buckled together as closely as a man buttons his overcoat when about to face a driving storm. Let the lungs of a horse be well protected with a heavy blanket and he will seldom contract a cold, even if the hindmost parts of his body are not covered. Many of our best teamsters protect the breasts of their horses by a piece of cloth about two feet square, hanging down from the lower end of the collar. This is an excellent practice in cold weather, as the most important part of the animal is constantly sheltered from the cold wind, especially when travelling toward a strong current. The forward end of horse blankets should be made as closely around the breast of a horse as our garments fit our bodies. Most horses take cold as readily as men, if not blanketed while standing, after exercising sufficiently to produce perspiration. So long as the horse is kept in motion, there is little danger of his suffering from cold; but allow him to stand for a few minutes, without a blanket to protect his shoulders and lungs, and he will get cold sooner than men.—*Exchange.*

WHY THE PLACE WENT DOWN.

I was riding past a large farm a few days since in a public conveyance, when a man remarked, as he looked out, "This place seems to take to red sorrel the best of anything. I should rather have it in red clover."

Then followed some conversation between him and the driver with regard to the owner of the property. Once he was offered eight thousand dollars for it; now it would not bring half the money. The fences were all broken down, the boards of the barn were swinging in the wind, the old plows and wagons stood about unsheltered in the neglected barn-yard, and the house just opposite was in keeping with all the rest.

"The old man's sons mostly hang around the old place, but don't seem to do much towards keeping it up. They are a lazy lot. All three of 'em are at home now living off their father. How they live with their families I can't see. They never have anything to sell off their place."

One could readily believe that, when he took a survey of the broad fields, which should have been covered with waving grain, but which instead were red with sorrel. There sat the lazy young men looking out on the passers by, as if they had no other business in life. The old farmer smoked his pipe and saw his valuable place going to wreck and ruin, with the coolest indifference. The women of such a household were well deserving of pity, for on them fell the principal burden of making bricks without straw. In such a "sleepy hollow" atmosphere, the most energetic would feel a lethargy creep over the spirits, effectually checking all advancement.

Would you like to know the secret of such thriftlessness? It was a whiskey barrel in the cellar.

Sales of Stock.—John Dimon, Esq., of Pomfret, Conn , has sold to Henry C. Bowen, of the New York *Independent*, the thoroughbred Ayrshire cow "*Lida*," No. 547, American Herd Book.

Mr. Wm. Birnie, Springfield, Mass., has sold to H. L. Stewart, Middle Haddam, Conn., as we learn from the *Country Gentleman*, the two-year-old Ayrshire heifers *Nellie* (662,) *Susie* (789,) and *Hattie* (430)

Mr. D. B. Fearing, Newport, R. I., has sold to H. G. Park, Long Island, his imported Jersey bull *Earl Jersey*; to L. P. Morton, heifer *Blueberry*, for $350; and to another buyer his cow *Fanny*.

The Toronto *Globe* says that of about sixty Leicester and Cotswold sheep offered at public sale nearly all were sold at $46 to $14 for rams; $40 to $10 for ram lambs; Cotswold ewes at $35 to $18 per pair; young Short-horn bulls, $100, and $95; heifers at $80, 61, and 51.

AGRICULTURAL ITEMS.

—Texas has more than 3,000,000 head of cattle, and can export, annually, 1,000,000 beeves.

—The average home production of wheat in England for the three past years is stated at 12,278,666, and the importation at 8,413,312 quarters.

—The farm in Yorktown, Va., upon which Lord Cornwallis surrendered his forces and signed the articles of capitulation, was recently sold for $8000.

—Twenty years ago Pennsylvania was the largest wheat-producing State in the Union—now it is about the twelfth on the list.

—A lot of Mestiza wool, of the clip of 1865 and 1866, was recently sold in New York at a reported loss of over 200,000, in the way of interest, insurance, commission, storage, difference in prices, &c.

—Mr. Charles Downing says that there is a raspberry in cultivation, which is being grown under the following different names: "McCormick, Miami, Large Miami, Collinsville Miami, Superior Miami, and Mammoth Cluster."

—Mast is unusually abundant in Mississippi this season. In Big Black Bottom, beech mast, acorns and hickory-nuts are very plentiful, and farmers will be able to fatten their pork with a small amount of corn.

—Good butter sells quick in Champaign Co., Ill., for 50, and ordinary at 35 to 40 cents per pound, probably at retail; and even at these prices its production is believed to be less profitable than raising and fattening cattle and sheep.

—J. H. Flickinger, of Santa Clara Valley, Cal., raised 200 tons of beets last year, which averaged twenty-five beets to the ton. There were many of them that exceeded one hundred pounds to the beet.

—A correspondent of the *Southern Cultivator* adduces many facts in support of the theory that rust is a disease as permanently fixed in some varieties of wheat, as the consumption is in some families. He classes the Tappahannock with the diseased varieties.

—The following is recommended by the *Southern Cultivator* as an excellent salve for wounds or or galls on horses and mules: Take one gill of turpentine and one-half pound of tallow; melt the tallow and pour the turpentine with the tallow while hot; rub the animal's shoulder with it while it is warm, with a woolen rag, three times a day until it is cured.

—A correspondent of the Davenport, Ill., *Gazette*, put two hundred measured bushels of corn in a crib in November, 1868, which were recently marketed. The corn was kept in a well protected crib, and was in excellent condition when sold. It was found to have shrunk forty-eight bushels, equal to twenty-four per cent. discount from the original amount. There was no unusual exposure to rats, bad weather, &c.; the corn was first quality, and he thinks the experiment was in all respects a fair test of the profit and loss of holding over.

—A correspondent of the *Country Gentleman* remarks that not within the memory of the oldest farmer have hills and plains been covered with such a sod as now. The long spring and fall rains of last year established the sod, notwithstanding the drought that intervened, and the present moist season, has given it the finishing touches. He advises farmers to take advantage of this fertility from the air by fall ploughing.

—To encourage wheat growing at home, and in the most profitable way, Mr. B. F. Griffin, of Hernando, Miss., says, in the *Southern Cultivator*, that the ordinary yield, by ordinary cultivation, in his county, is from three to seven bushels per acre, without manure. By deeper ploughing, better cultivation, and some manuring,—in one case at the rate of 100 bushels of cotton seed per acre,—crops were raised this season, within his knowledge, of 18, 20, 27, 29, and 31 bushels per acre.

—Mr. B. F. Cutter, of Pelham, N. H., has given us some curious observations in regard to crickets. His theory is that the singing of the "merry cricket" is governed very largely by the temperature of the weather, and that the change of one degree even, makes a corresponding change in its music. According to his experiments when the temperature is at 74° the cricket gives 154 "notes" in a minute; at 72°—145; at 70°—134; at 67°—120; at 63°—100; at 48°—10.

—The Vermont papers notice, recently, crops of 116 *heaping* bushel baskets of sound corn husked from a little over one acre of Gen. Blair's farm in Jay; J. Ervin Crane, Bridgewater, 3000 pounds of honey; Hon. H. S. Tallman, of Greensboro', measured up 132 bushels of wheat from four acres; George Kent, Calais, has harvested 250 bushels of Garnet Chili potatoes from three-fourths of an acre; J. L. Page, West Charleston, has raised 5000 bushels of the same variety, at the rate of 400 bushels per acre.

—A correspondent of the *Gardener's Monthly* says that in the vicinity of Philadelphia, the Early Goodrich was very inferior last year, being pasty and almost unmarketable. This year it is much better. He planted Early Goodrich, Jackson White and Mercers, April 9th. The Goodrich ripened first, Jacksons second, and Mercer third; producing, as named, 3¾, 2½ and 3¼ bushels to an equal number of hills. In regard to quality the preference is given to the Goodrich this year, while last year they were inferior to either.

THE CANADA THISTLE.—A correspondent of the *Rural World* who has recently visited England, was surprised to find this pest so common there that those who handled the grain had to wear sheepskin gloves. He says the Canada thistle is the great bug-bear of English grain fields; it has existed there from time immemorial, and seems likely to do so for all time to come. He says, "if English farmers, with their abundance of labor; with their skilful rotation of crops; their wheat fallows and their roots; the high culture of their land, that has been under the plough perhaps for ages—if they cannot eradicate this accursed thistle, I think it needs no stronger argument to urge upon American, and especially upon Western farmers the necessity of grappling with this intruder, and never to let it gain a foothold on our soil, if possible to prevent it."

SMUT, CHESS AND COCKLE.—Mr. S. B. Britt, Georgetown, Tenn., gives in the *Southern Cultivator* the particulars of an experiment by which he thinks he has discovered a preventive of all three of these pests. His seed wheat was badly adulterated with chess and cockle, and was also smutty. Not having patience to hand-pick his seed for thirty acres he concluded to run his chance with the cheat and the cockle; but to prevent smut he thought he would try a steep of one pound of blue vitriol in water enough for six bushels of seed. After steeping one mess about thirty-six hours, he found the cockle seed "rotten," and was satisfied it could not grow, and this led him to hope the steep might prove injurious to the cheat. His anticipations were verified at harvest, as not a sprig of either cockle or chess was seen in his wheat thus treated.

AN OLD-FASHIONED FARMER.—The style of farming to which New England is largely indebted for her prosperity,—a prosperity which has long been an enigma to the planters of the South,—is well illustrated by the following sketch furnished by a correspondent of the *Maine Farmer:*—

Col. Francis Hill, of Exeter, Me., a man now about 80 years old, took up wild land and commenced farming about 60 years ago. He lives on the same farm to-day, and in that time has never bought a pound of flour or meal of any kind, a kernel of corn or grain, a potato or apple, a pound of butter or cheese, of pork, beef or mutton, or any other nameable thing which farmers in Maine ordinarily produce from their farms. He has one of the best farms in his town, and works it yet himself; and was seen to-day guiding the plough and turning as straight and handsome a furrow as any young man in the land could do.

EXTRACTS AND REPLIES.

WOOL AND LAMB RAISING.

In an article of mine published in the FARMER of August 21, mention is made of the great number of fine wooled sheep feeding in the fields of Vermont farms. In my journey through Vermont to the State Fair, it appeared to me that there were not in sight of the railroad as many tens now, as there were hundreds of sheep last November.

I infer therefore that a very large proportion of the fine wool sheep of Vermont have been disposed of and large flocks reduced to suitable dimensions for raising wool in connection with market lambs. A glance at the Brighton market reports shows that the flocks have so far been reduced that the sales are reported at one to two cents a pound higher than they were one year since, with the prospect that in one year more they will be two cents a pound higher than now.

One thing I think is clear to every discerning mind, and that is, that our supply of fine wool will hereafter be grown at the South and West in great measure. At the present prices of beef, pork, and the prospective prices of mutton, there is no business in which the farmers of New England can engage which promises more remunerative prices than the raising of wool and market lambs. The Chicago wool market report shows a falling off of 600,000 pounds of wool in one month from the corresponding month of last year. It does not therefore require a "prophet nor the son of a prophet" to show that the prices of wool must soon be higher, especially if we take into account the fact shown by reliable agricultural reports, that, in nearly all of the western and southern States the losses of sheep from grub, scab, foot-rot and other diseases, mostly arising from want of protection and want of care, are diminished flocks from ten to thirty-three per cent. The parts of flocks still remaining in the New England States are now in a condition to realize more clear money from raising wool and market lambs than they have been for many years past. Farmers who are wise enough to breed only to good strong thorougbred bucks will see their account in it.

The Merinos, if well fed and housed in winter, so as to be at all times in really good condition, are good nurses, and when bred to full-blooded Cotswold bucks will sometimes produce lambs that will outgrow the full-bloods. Indeed I have sometimes known them to weigh more than a hundred pounds at seven months old, and sell for eight cents a pound live weight. Add to this the fleece, at say two dollars, which it will bring when the sheep is kept well enough to make the lamb weigh a hundred, and we have an income of ten dollars a year for the keep and care of a sheep. For rearing market lambs, there is probably no sheep better adapted than the first cross of the Cotswolds on the Merino; none that will prove more prolific and thrifty. T. L. HART.

West Cornwall, Conn., Oct., 1869.

CURING HAY.—FANCY PRICES OF NEW THINGS.

I cannot well get along without the FARMER, notwithstanding some of the writings therein have produced in me a diseased state of mind and purse, commonly known by the name of restlessness and emptiness. For instance, the Metcalf half-dried, salted-and-limed hay theory affected me badly, as it did also my cattle, which probably might have died, if I had not had a large supply of early-cut, nicely-cured, sun-dried hay, which I administered freely as a medicine, with most encouraging results. Good early cut hay is, in my opinion, the great panacea for horned cattle and horses; and will not kill sheep when given in proper doses. No farmer should be without it summer or winter. I next came down with the potato fever. It run high. Drs. Early Goodrich, Sebec and Rose prescribed for me until I was salivated. Age and constitution saved me, no doubt; for having dismissed my physicians I entirely recovered.

I am naturally somewhat given to experimenting. I like to read all that I can find time to, of what is written upon the subject of agriculture. Still, I do not feel that I am bound to test, by practice, all the new-fangled doctrines advanced by those whose pecuniary object is as obvious as in case of the advertising, puffing and selling Early Rose and other potatoes at $3.00 per pound, or $180 per bushel; or Norway and other oats at similar prices. No sir, not I. For I have yet to learn that we farmers can all live and prosper by puffing and blowing for any, or all, the different varieties of vegetables, grains and animals, without a slight sprinkling of manual labor, tinctured with economy, sobriety, and at least a coloring of honesty. C. H.

Marlborough, N. H., Oct. 4, 1869.

MILESTONES AND GUIDE BOARDS.

Every day some of us are asked the distance or the direction to such and such a place, and of course we give the desired information as accurately as we can. But why need a stranger be put to this trouble of stopping every now and then by the way, and hailing some man or boy in regard to the distance he has got to travel? Milestones, that poets tells us of on "the journey of life," are as real as those which the bewildered traveller searches for in vain on many of our highways. Indeed such guides are so scarce that when one is visible, many passers-by wonder what that stone stands there for, and some even inquire Who was buried there? And what few are to be seen at long intervals by the roadside, are mostly old relics, partly covered with lichen, and are as illegible from age as headstones in an ancient graveyard. In front of my house stands one of these venerable specimens, half sank in the earth, but serving as a convenient place to stick handbills.

When traveling by rail, milestones all run together, and, besides, the conductor's check renders them superfluous, as a table of distances is usually found on its back, very convenient for reference by passengers as they are whirled from point to point. But when we are journeying with our own teams, it is a matter of personal convenience to man and beast to mark each successive mile. No wager may be pending on the speed made, as when fast horses go the round of the "mile track;" but a considerable amount of personal comfort and enjoyment is. How often are individuals puzzled in their own native village to tell a new comer the distance from this and that house to another farther on, or from one district to another on the same street; or just how far it is to the church and post office? We have an impression that it is a mile, or some fraction of one, from one point to another, and that the main street is just about so long; but what visible, tangible means have we at hand for verifying our impressions? Even the road surveyor is very apt to proceed in this vague way, and take it for granted that nobody expects an exact calculation of distance. Now regular milestones may not be as essential to peace and harmony as are bound-stones, but if established at regular intervals along our highways, they would save a deal of breath and uncomfortable suspense. Why not have public measures of distance as well as of time?

Guide boards are tolerably frequent in every well regulated neighborhood, but sometimes this very fact is the cause of bewilderment. For example, you travel intelligently under their guidance to a certain fork in the road, where you miss the accustomed sign, and are the more confused from having thus far depended upon them. You wonder why one should be missing now, and your only alternative is to venture ahead, till you overtake somebody, or arrive at some house where you can obtain the needed information. It may be a mile or two; and then, perhaps, your weary horse must be turned back on his hard journey, till the right road is struck at last. Sometimes the guide-post is flanked with as many boards as there are points of the compass, and enlightens you considerably on the geography of the whole region. You proceed with full assurance till all of a sudden you come to a halt before a naked post, or a faded dilapidated sign, better off than on. Then you wonder why the fathers of the town did not indicate the way here as well as elsewhere. Did their funds give out just here, or didn't they think this "fork" worth noticing, or did they take it for granted that everybody knew the road as well as they?

Some old guide-boards are suffered to remain just where they were nailed in the days of turnpikes and staging, from capital to capital, just as though railroads and telegraphs were not in operation. They are pleasant reminders of the good old times, and call up many ghosts of departed wayfarers and teams; but they fail to divert the rushing tide of travel back into the old ways.

The editor of *Our Dumb Animals* pleads for more guide-boards, from recent experience in driving over roads with which he was unacquainted in Massachusetts, New Hampshire, &c. Let me add my humble plea, after a recent drive over certain strange roads in Connecticut. Let me also here return thanks to sundry men, women and children, who supplied the deficiency as well as they could by intelligent answers to a perplexed and bewildered stranger's appeals, in the pursuit of knowledge under difficulties. W. B. B.

Longmeadow, Mass., 1869.

OIL AND COTTON SEED MEAL.

Can you give me some information concerning the qualities and value of oil meal and cotton seed meal?—what kind of stock they are suitable for, how fed, value as compared with corn meal, &c.

There seems to be a strong prejudice among our old farmers against oil meal. They say it injures the flavor of butter and makes the milk unhealthy.

Oct. 6, 1869. D.

Remarks.—In small quantities, oil, cotton or Indian corn meal are excellent for milch cows or working or fattening oxen. A quart of either, each day, for an animal, would probably never harm it. Butter made from cows so fed would not, we think, be flavored with oil or cotton seed meal. We should prefer to have hay cut and the meal mixed with it, to feeding the meal alone. As prices range, they indicate that oil meal and cotton seed meal are more nutritious than corn meal. They probably are so. Milk producers want to get all the milk they can from their cows, and some of them feed two, three, or four quarts a day of meal to each cow. It produces a large flow of milk for a time, but is highly injurious to the health of the cow, producing abortion and shortening the life of the animal.

EARLY ROSE IN NORTHERN VERMONT.

We admire the straightforward, fearless manner in which the Farmer exposes humbugs, and guards the public against error and imposition. But we did feel just a little as if it was over zealous last spring when, in common with all who had not proved this variety, it spoke quite disparagingly of its quality.

In regard to the table quality of the Early Rose there is only one opinion *now*, in this section. Our best houses offer twice the price of ordinary varieties for them, but they will be mostly saved for seed.

Among the scores of reported crops, we have had only a single complaint: One man told me that his pound raised only 34 pounds. The majority have ranged from 80 to 100 fold, from small quantities of seed. I have grown the Rose this season with the Excelsior, Western Chief, Philbrick's Early, Bresee's Prolific, and other new varieties. In productiveness, they are equalled only by the "Prolific," which exceeds it. Mr. Amos Robinson of Swanton, Vt., a gentleman of well known veracity, makes the following statement in the St. Albans *Messenger*:—"From three Early Rose potatoes, which weighed one pound, he this year raised 359 pounds, which is within one pound of *six bushels*. Had he not dug a few for trial, this one pound would have been more than made up. Thirty-one of the potatoes weighed 41 pounds 7 ounces. The land on which the crop was raised had not been manured this year.

West Georgia, Vt., Oct. 1, 1869. O. C. Wait.

NORWAY OATS.

I have some oats of which I was quite boastful when your first account of a heavy yield came, as mine had more than twice as many grains in a head as those you described. But more recent statements have so completely eclipsed mine, that I now simply enclose to you two or three heads, to ask whether they are the "Norway" or not.

Boardman F. Stafford.

South Wallingford, Vt., Oct. 1869.

Remarks.—On comparison, we think yours are the same as those which have been sent by others as specimens of the Norway.

Having read the statements about Norway oats, I thought I would see what I could find in my own field, which I thought could not be beat. First I pulled up a stool with eight stalks from one seed, producing 1511 grains. Then I found another bunch of 13 stalks and 1762 grains. Afterwards a stool of 17 stalks, but have not counted the grains. These oats were sown on pasture land after two crops of potatoes with *no* manure.

Chas. E. McIntire.

Lancaster, N. H., Oct., 1869.

Remarks.—That must be good land. After such a cropping, will it produce grass that will fatten stock? The failure of our New England pastures is a subject that has been considerably discussed of late. Please give us your views as to the proper management of this important part of our farms.

FALL CROPS IN NEW HAMPSHIRE.

One year ago to-day snow fell to the depth of three inches in this town. Now we have grape vines, beans, &c., untouched by frost, late planted fodder corn, vines, &c., as green as in July, and large quantities of tomatoes as fresh as those that first ripened. This is remarkable for New Hampshire. After all our fears our corn crop is good, some farmers say they never had better.

Concord, N. H., Oct. 18, 1869. N. P. Rines.

MUCK, LIME, AND SALT.

Can salt or lime be economically used with muck?

What is the best way of managing a meadow once reclaimed and drained, but by neglect suffered to revert to water grasses, hassocks, &c. Can it be done without ploughing? P.

Remarks.—Where lime or salt can be procured at moderate cost—as they sometimes can in a partially damaged state—we think they may be economically employed. That lime, salt and muck, well mingled, will have an excellent effect upon most lands, we have no doubt.

We see no other way of reclaiming a *backsliding* meadow than to treat it as it was treated originally: drain, plow, plant and hoe the crop thoroughly. If it has not grown up to bushes, perhaps draining, ploughing and pulverizing the surface may fit it for sowing grass seed. In such case it should be dressed with fine manure, which should be harrowed in with the seed.

A CRIPPLED SOLDIER.—POTATO RAISING.

Being lame and feeble from injuries received during my service in the late war, I wish to ask your advice as to what I had best undertake to do. I have bought ten acres of worn-out land, with miserable old buildings, on a road full of rocks, logs and mud holes, in a neighborhood where farms are fast going to pasture, and five miles from any store, &c. I have an old orchard, a fair meadow, with water in yard. Stock being high, I raised all the calves I could, worked out in the summer, battened up the barn, and potatoed my young stock through the winter, to find that prices have gone down.

For two years I planted the Long Red potatoes on such miserable plain land that a skunk would feel faint to cross it, and with a little plaster but no manure got glorious crops. This year I thought I would go in for improvement, so bought some Sebecs, Early Goodrich and Harrisons, put a good shovelful of manure in the hill and—well I have bought potatoes and must keep doing so the rest of the season! A few of the Long Reds were accidentally planted or sprung up from seed in the ground or with the manure, and they were whoppers! Would like to read an article addressed to A Scrubber of Bush and Brier.

Hillsboro' Centre, N. H., Oct. 20, 1869.

Remarks.—Would that it was in our power to aid you by advice or otherwise; but as your letter clearly shows that you are "a live man," notwithstanding all the battering you got in the service, we conclude that you understand your circumstances better than we do, and we judge that you will be pretty safe if you follow the leading of your own best judgment. We have little faith in poor land, or "miserable old buildings," and we mistrust that you have put "the worst side out," and that your ten acres will soon justify a more favorable description. True, stock is lower now than when at the highest, but so also are many things that you have to buy. Perhaps you will be pleased with an article in another column, on potato raising. We are trying hard to make a paper that shall interest the "scrubbers of bush and brier," as well as the cultivators of smooth fields and rich farms, and most heartily endorse your request for articles calculated to interest and benefit those who, like yourself, are endeavoring to restore the run out soil of New England, even on a small scale. Let us hear from you, again.

LAMBKILL OR LAUREL POISONING.

I have been informed by Mr. Nathan Corey of Washington, N. H., that the white of an egg is a sure antidote for Lambkill poison. It will give relief when a sheep is so far gone that it cannot stand. If one egg is not sufficient, give it two or three.

A GOOD HARROW.

Ayers' harrow is the best implement to pulverize the soil after it has been broken or turned by the plough or to cover grain, that I have yet seen. It is next to a plough to cover manure.

Another having taken, without leave, my incog, I will subscribe myself Hollis Towne.

A CURE FOR GAPES IN CHICKENS.

Double a long stiff horsehair, so as to make a bow or small loop in the middle; hold the chicken with its bill open; introduce the loop of the hair into the windpipe, and push it down as far as it will go, turn it around a few times and draw it out. You will probably bring out some small, bright red worms, from half an inch to two inches long. Repeat the operation until the worms are all out and your chicken is cured. C. S.

Stoughton, Mass., Aug. 26, 1869.

For the New England Farmer.

A LITTLE DRAINAGE OPERATION.

BY JUDGE FRENCH.

Mr. Brown,—Dear Sir:—I willingly comply with your request to describe the little drainage operations upon my farm in Concord. I have both preached and practiced draining land for twenty years and more, and I still find that farmers are very slow to follow my good example. There are several farms close by me where the whole cost of draining some portions of them would be repaid by the increased product in two seasons, yet for want of faith or knowledge, the owners neglect to make the improvement, and year after year lose their crops, or work the soil at great disadvantage.

The Plan of Operations.

I bought my farm in the spring of 1867. It has been under cultivation two hundred years and more. The field of which I shall speak is the one nearest the house and barn, and next the street. In it is a low place, of about a half acre, which had always in autumn furnished a skating pond for the children. It is a basin, filled by heavy rains with surface water, with no outlet, and from which the water slowly passed off by percolation through the soil, leaving it dry in summer, so that it has been occasionally ploughed, and sowed to grass, producing a fair crop for a year or two, and then going back into wild grass and hassocks,—the condition in which I found it. In the spring of 1867 I ploughed across one side of it, and when I planted my fodder corn on the 4th of June, it was too wet to plant, and I left it untilled through the season. This piece we will call the pond-hole. In the same field, near my neighbor's line, is a level tract of one acre or more, which produced very little, upon which the water ponded late in the spring, and which had not been ploughed for some sixteen years or more. Under this, I found by digging test-holes, that there was a soft blue clay at the depth of two or three feet. On my neighbor's field was a similar tract of one or two acres, at the same level, adjoining mine. He or his ancestors had attempted some surface drainage, through a bank to the street, but with no permanent advantage.

Having had a careful survey of my farm, including the contour, I found that the best outfall for my drainage would be 750 feet through my neighbor's land, on a brook leading to Concord river, and that in the whole distance on his and my own land, in all about 1200 feet, I had but 7½ feet fall from my pond-hole. Starting the drains at 3½ feet deep, I had four feet fall, or an average of four inches to the 100 feet. Finding by digging a test-hole that we came into flowing sand and water at the deepest point, I concluded to lay the tiles to that point with a descent of three inches to 100 feet, making the drain 6½ feet deep there, and give an increased fall beyond, which would much increase the capacity of the tiles to carry water, without increasing the size. The greater the fall, the more water the pipe will carry, and as we had 4-inch tiles for the whole 750 feet, and they would be laid low enough to take in water most of the way, this was an important consideration.

The Process.

We begin to lay tiles at the upper end of a drain, because if we begin at the lower end there is danger of their filling with the deposits from the muddy water which flows through them. But to do this, we usually open the drain the whole length, otherwise the water cannot run off. Knowing that if we did so, the banks would cave in and stop our work, I adopted a different course. We first opened the 750 foot drain to the depth of about three feet, which was as deep as we felt safe against their falling in. Then at the upper end on our boundary line, we dug and stoned up a well about five feet deep and three feet in diameter, the water rising in it to within a foot of the natural surface. Then we opened our drain to its full depth for three or four rods, and while one man with a bucket dipped up the water into a trough, which carried it forward into the partially opened ditch, we laid our 4-inch tiles in place, putting a strip of tarred paper over the upper part of the joint, and partly filling the ditch as we proceeded.

When we reached the greatest depth, which was 6½ feet, our troubles were many, and we had a hard fight for some days. Although October was as dry as any part of the season of 1868, we had a foot or more of water in our drain whenever we ceased to throw it out, and the sand seemed as fluid as the water. We put in plank curbing with braces to sustain the upper part of the bank, and tried various expedients to keep the sand from running in at the bottom. We finally discovered that by thrusting down wide shingles, edge to edge, on each side at the bottom of the drain, we could get three or four tiles at a time into position. The banks, however, caved in occasionally by cartloads, stopping our whole work, so that on our worst day, with five men, we got in but *three tiles!* That was a bitter cold day with a snow storm, the 17th of October. We resolved, however, to fight it out on that line, if it took all winter. In three days more we got through the worst, and opened the lower end so that the water ran off of itself, and on the 22d we laid the last tile in the main ditch.

The cost of that drain was as follows: 750 4-inch tiles and freight $51.75; copper screens for outlets, tarred paper and lumber $3 90. Labor, excavating, filling, fixing well and outlet, fifty days, $75.00, making in all $130.05, of which my neighbor contributed one-half.

Thus far I had gained only an outlet for my drains, as the main drain was all on my neighbor's land.

Then we opened a drain from the well to the pond-hole, going, at the deepest, about 4½ feet, in very soft clayey subsoil. Through the pond-hole and well up into the sloping sides of it, we laid drains with 2-inch tiles, fifty feet apart, from 2½ to four feet deep, as the surface varied, and connected them with the drain leading to the well, which was laid with 3-inch tiles. We also laid other 2-inch drains near the division line, and completed the whole by November 16.

The well is covered with a platform, which opens so that we may see what is going on. Three drains pour into it, and the main drain flows out, and after a heavy rain it is a pretty sight to see.

The ends of the tiles in the well are covered with copper netting, to keep out frogs and mice, and anything that might obstruct. Sometimes the main runs full and the water rises two or three feet above it, but only for a few hours. Such an opening is well worth having, in a system of drainage, to catch any silt that may come from the drains above, to enable us to inspect our work, and to show doubtful neighbors what a lively time the water is having underground, when all is so dry and quiet above.

The Result.

The pond hole which had been ploughed and seeded to grass in a dry time in August last year, bore this year the heaviest crop of herdsgrass on the farm, and a good second crop, and is now covered with a good growth of clover. The spot which was too wet to plant with fodder corn last year, in June, was set with asparagus the past spring, and is dry enough for any crop. The flat portion near the division line and well, where water generally stood all the spring, was ploughed on the 7th and 8th of May from ten to twelve inches deep with four horses and a Michigan double-plough, and with ordinary manuring has produced good crops of carrots, Swedes, Mangolds and potatoes. The Mangolds on half an acre yield at the rate of twenty tons to the acre, and the carrots and Swedes not yet harvested are as good in proportion, which is satisfactory for such crops on a heavy sod turned so deep at one operation. I think the two acres affected by the drainage near the line will prove the best market garden land on the farm. It is now, in the middle of October, after heavy rains, fit to plough at any hour. The wet places which were before obstacles in the way of regular work in my most convenient field, may be worked with the rest and no longer deform the landscape.

My neighbor has not yet ploughed his field, but is well satisfied with what is done. Possibly, having seen his land afloat every spring and fall of his life, he would not have had the faith to plant it with root crops till he had watched mine over the fence one season.

I am satisfied that in no way whatever could I have expended the same amount upon my farm so profitably as in this operation.

Concord, Mass., Oct. 20, 1869.

WINTERING BEES.

This subject was discussed at a late meeting of the Michigan Bee-keepers' Association. Jas. M. Marvin of St. Charles, Illinois, as reported in the *Prairie Farmer*, said, I keep from 200 to 500 hives every winter, and for the past twenty years have kept them in cellars made dry and warm. I would not advise bee-keepers to keep their little friends out of doors, subject to the storms and winds. I prepare the hives by equalizing their honey, and leaving the slats open in the honey-board. The hives are placed in rows around the cellar; two, three, and sometimes four tiers deep. If there is plenty of room, I would place the lower tier of hives about two feet above the bottom of the repository.

Cellars having sandy and gravelly foundations would generally be dry and suitable places. Attention should be paid to the temperature, to keep it as near as possible between 35° and 45°. If below 35° they will be too cold, and if above 45° they will be so warm as to get uneasy and leave the hives.

The President made it a rule to weigh his hives and if any fell short of the proper amount, he supplied them with combs of honey from those having too much. In answer to a question, the President said he wanted the combs, bees and honey to weigh not less than thirty-five pounds. Twenty-five pounds of *honey* would winter a hive of bees safely.

Mr. C. I. Balch, of Kalamazoo. has a large house cellar dug out of a bed of sand and gravel. The sides are laid up in stone of all shapes and sizes, and left rough. There is no floor, simply a loose gravel bottom. In one corner is a large cistern, the top being about a foot from the floor of the room above, and is left entirely open. The water being thus exposed, purifies the atmosphere, both summer and winter, and keeps the temperature uniform. From ten to fifty hives are put into this cellar every winter. None have been lost till last winter. A few young swarms were then lost, which was mainly owing to *bad honey.*

HOW TO UNHITCH A TEAM.

There is always a right way to do everything, and the right way to unhitch a team is that which is quickest and safest. We have often noticed farm boys, and not only farm boys but men, disconnect a team from a wagon in a very unsafe manner, something as follows:—

The driver springs from the wagon, goes to the sides of the horses, puts up the lines, unbuckles them at the bits, lets down the neck-yoke, unhitches the tugs and leads the horses away disconnected.

Now this mode is very common, and very risky. Let us notice why. In the first place, as soon as the lines are put up you have lost your means of control, as soon as the pole is down your horses are in peril. Supposing they should take fright, which is common to the most quiet animals, the result of a team running with only the tugs hitched can be imagined. We have cases in mind where horses have sped away with maddened fury in exactly this condition, the pole ploughing the ground, and at every plunge of the frenzied animals, the wagon striking their heels, frightening them to perfect desperation.

Now the right way, or a good way at least, is to keep the lines in hands or where they can be reached until the tugs are *all* unhitched, then your team is free from the wagon unless a stationary neck-yoke is used, next go directly in front of the horses and let down the neck-yoke, and after this separate them as convenient.—*Ohio Farmer.*

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